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LECTURES
ON
HUMAN EMBRYOLOGY,
ILLUSTRATED BY COMPARATIVE ANATOMY.

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LECTURE II.

The Function of Generation.—The Germ of Animals.—Varieties of Animals produced.—Immutability of Species.—Modes of Accomplishing the fecundative act of Generation.—Modes of Birth.—Theories of Formation of the Fœtal Germ.

IN the preceding brief lecture, gentlemen, I had the honour of announcing to you that the object of the present course would be the study of the reproductive organs, male and female, in the first place; and secondly, ovology and embryology, or, in a word, all that concerns generation.

Generation is, beyond all doubt, at once the most important and the most obscure of all our functions. A great number of authors have occupied themselves with its study, but their researches have only contributed to render more certain and clear the impossibility of ascending to the primordial principles of life. We may find in their works an exact description of the organs subservient to generation; on this point there is little or no disagreement amongst them; but when the naturalist abandons simple anatomy, and endeavours to explain the formation of the germ, would ascertain whence it proceeds, and what is the office of the spermatic fluid in generation, he falls into a labyrinth of conjectures, from which he finds it impossible to extricate himself. To satisfy his desire of positive knowledge and repose his intellect, he is too often compelled to supply the absence of facts by theories, brilliant indeed to look at, but too frequently far removed from attaining the truth. Thus some have imagined that an animal is primitively formed in the same manner as a crystal; others maintained that the germ existed from the very commencement, and would continue to be reproduced indefinitely; others have put forth a hundred different hypotheses: but these will be matter for future consideration; at present it is sufficient merely to point out their existence. At a future period we shall discuss the principal amongst them, for before entering into any details we must explain what the naturalist understands by the word "generation."

Generation, then, is the sum of those acts by which "reproduction" is effected; "reproduction" is that function of the animal economy which has for its object the perpetuation of the species. It consists in the circumstance that one individual is born from another similar one, and this continuation of similar individuals constitutes what has been called "species," or in other words, "a given animal form propagated by generation." It is true, indeed, and admitted on all hands, that animals derived from the same source may, after the lapse of time, and under the influence of certain causes, undergo various modifications that are called varieties; but these latter are strictly confined within certain bounds, and hence we call "species" the "succession of individuals from the same common parents," for it is the continuity of succession which essentially marks the species, and nothing else. As to the varieties, you are not to imagine that the causes upon which they depend are calculated to make any deep or lasting impression on the economy, that they act on organs important to life, or in any way change the species; on the contrary, they depend on causes which are merely accidental, and never operate anything beyond a superficial change: the principal amongst them are, heat, light, nourishment, and domesticity or civilization.

You have only to examine the mode in which each of the agents just alluded to operates, in order to see that it is completely accidental, and can exercise an influence on certain characters only. Thus

light acts almost exclusively upon the animal's colour; heat on the quality of his hair, &c.; nourishment on the bulk and stature of the animal. Beyond these, external agents have little or no influence; and then you perceive how the varieties are comprehended within very strict limits. Take, for example, the dog, an animal submitted more than any other to the effects of domesticity, and you will find an infinite variety of forms; in volume, some varieties are double the size of others; in some the hair is long, in others short, rough, smooth, or curled. But the maximum of variety is the existence of an additional toe on the posterior extremity: this is the extreme term of variation for the canine species, and all the other influences alluded to, merely operate on the surface of the anima', without changing his organization in the slightest degree. And do not imagine that the lapse of years, of centuries, may bring with it any greater change. The mummies of various animals which existed at a very remote period have been recently found and examined. We have seen the remnants of dogs, monkeys, cats, crocodiles, and even men, of very ancient date, without remarking any striking difference from the animals which now exist. There may be some individual differences, and such as are noticed every day, between animals of the same species; but when we ascend to a very remote period, when we examine nature as she existed two or three thousand years ago, we do not find that the species have passed the narrow limits already assigned.

When I spoke of varieties and their causes, I made of course abstraction of those causes which are absolutely unknown to us. The globe, you know, has passed through more than one great revolution, during which many animals suffered, and several were lost; even whole genuses have been swept away altogether; but these grand catastrophes, although they destroyed many species of animals, have not modified them in the slightest degree, and this shows most clearly the constancy of the species to which we have already alluded. In Cuvier's great work on fossil remains you will find several examples of this. You will see that various species have been destroyed by the several catastrophes which once agitated the globe, but not one has been changed. In some races of animals only a few species have been destroyed, in others all the species composing the genus are lost. But those revolutions, however sudden and violent they may have been, never modified the animal economy to such an extent as to make one species pass into another. No, gentlemen, this phenomenon has never yet been witnessed; and whether we examine the present history of animated nature; whether we turn back to old Egypt, and consult the relics of her pyramids; or, finally, whether we ascend beyond this world, and analyse the animal frame at a time when nature had not yet assumed her present shape, we find every where proofs that the species of animals are permanent, that they never change, or pass certain limits; hence "the species is a succession of individuals born one after the other from a common stock. Varieties are superficial modifications of the species."

It also follows from wha has been said that the species are perpetuated by generations, or the descent of species one from the other; thus when we try to mix them together, the experiment is either very seldom successful, or the product very soon disappears, and cannot be perpetuated, for generation only takes place in similar species, and where they differ the function cannot be indefinitely carried on.

The act of generation or reproduction requires several organs for its accomplishment, and, of these many are of a higher importance than others. It is only by examining nature on a large scale, by having recourse to comparative anatomy, that we are able to show what portion of the apparatus is essential, and what part may be considered as merely accessory. The same holds good with respect to various other parts of the body: thus when we examine all the different apparatuses whose reunion or ensemble constitutes the animal economy, do we not see that amongst the organs which enter into their composition, some are essential to the function, others are what we may call organs of perfectionment? You may have heard of several examples illustrating the truth of this observation. Thus the implantation of the nerve in the cochlea is the only part of the apparatus of hearing which is essential to that function; all the other parts are as it were superfluous, and seem added either to render the sense more perfect, or to keep up the harmony of formations in the animal scale. In man the external auditory conduit, the membrana tympani, and the chain of bones, with their nerves, ligaments, muscles, &c. are to be considered merely as organs of perfectionment; for when we descend a few degrees in the zoological scale these parts disappear entirely; yet in the tupinambi audition is sufficiently perfect.

The other functions of our body follow the same analogy, and even digestion becomes more and more complicated as we ascend from inferior animals towards man: in the former it exists in its most simple type; in the latter, and in mammalia

generally, we have several functions united together in order to complete this fundamental act of our existence: in the first place we have the act of mastication, by which all substances of a nutrient nature are submitted to a trituration, and reduced to a state of subdivision, more or less perfect, before they are introduced into the cavity of the stomach itself. The object of this preliminary act is evidently to change the matter from a solid massive state to one in which a larger surface would be exposed to the action of the stomach and its digestive juices. After the subdivision of the alimentary matter by mastication, and its passage into the stomach by a complicated action called deglutition, we have the act of digestion commencing which is termed nutrition, or the change of the substance into chyle, by which a soft fluid and very nutritious matter is separated from the rest of the alimentary mass. But this is not all; when this separation is operated, we have the removal of the fluid chyme by a peculiar apparatus of vessels, constituting absorption; the matter thus taken up is transported by the absorbents into the circulating system, and thence to lungs, in order to undergo the special action of the air, by which it is converted into blood. If then we regard nutrition in its extended sense, you see it is a function of a very complicated kind, composed of several others, and requiring the *ensemble* of several acts for its completion; but in the animal world we find this function completely decomposed; and as we pass from one class to another we discover here and there the elements constituting it in man; thus in the mollusca we have no absorption, this part of the function being entirely performed by the veins. In insects the nutrient fluid is carried directly to all parts of the body, without undergoing any other change, and in several zoophytes (the echinodermes for example) nutrition is simply the imbibition of a nutrient fluid by the part in contact with it.

What I have just said, gentlemen, with regard to audition and nutrition, is equally true when applied to generation, and the mechanism of reproduction is in like manner more complicated as we ascend higher and higher in the animal scale. In the lowest degree, that is to say in the most simple kind of animals (several zoophytes and polypi for example), this function is accomplished without any sex, or any action analogous to copulation; the animal at some determined period of its existence separates into several fragments, which become so many new individuals, constituting what is called fissiparous generation (*generation fissipare*), or the animal produces on the surface of his body little granulations, small gemmules, which at a fixed time become detached and are converted into new creatures,——external gemmiparous generation,—or, finally, these gemmules, form in a fixed point of the interior of the animal,—internal gemmiparous generation. In all these cases a single individual is endowed with the power of reproducing itself, a circumstance which proves that generation is nothing but the propagation of the species.

If we ascend from the study of these, the most simple animals, to that of animals more elevated in the scale, we find the phenomena of reproduction becoming more complicated, and the concourse of two sexes becoming an indispensable condition; here also we have a number of varieties: in some cases the two sexes are united in a single individual, which is on that account denominated hermaphrodite, as the molluscum; and of these the union takes place in such a manner that the individual is capable of fecundating itself, and does not require the co-operation of any other: or the two sexes may be united in the same individual; yet the concurrence of a second is required, who fills at the same time the office of male and female, as the snail. Finally, in mammalia and man, where the most complicated functions and organization exist, we have two sexes, one belonging to each individual; copulation is here necessary for reproduction, and the species is composed of two individuals, the male and the female. In this latter class, which occupies the first rank in the animal creation, the concurrence of two sexes is, as I have said, absolutely necessary, and fecundation takes place through the medium of the act called copulation.

Here then we arrive at the existence of two sexes, each fulfilling an office perfectly distinct: the female furnishes the germ, the object which by progressive development becomes the future animal: the male sex produces a fecund seminal fluid, whose office is to fecundate the germ, and impress a stimulating influence on this rudiment of the animal. Nature employs a great variety of means to obtain this end, but the essential point is that the fecundating matter should arrive in contact with the germ of the female. However, we may embrace all under two grand divisions, viz., in some cases the fecundating fluid of the male sex is not applied to the ovum of the female, until this latter has been eliminated from her body, and, to use the vulgar term, laid (*pondu*). This phenomenon, as you all know, is seen in all osseous fishes, who generate without any kind of copulation; the female lays the ovum in a certain place

and at a certain season; the male comes after and discharges the semen on the collection of ova thus ready placed for its reception. This fact alone shows that the union of sexes is by no means necessary for generation, the only thing essential being this, that the ovum be submitted to the influence of the seminal fluid. In frogs you may observe the same thing: when the season for depositing the ova arrives, the male frog follows the female, attaches himself to her back, facilitates apparently this kind of accouchment, and bedews the spawn as it comes out with his semen. In other cases on the contrary (that of warm-blooded animals for example), copulation is necessary for the propagation of the species, fecundation takes place in the interior of the female, and the fluid of the male sex is applied to the germ of the female, while the latter is still contained within the reproductive organs: here generation presents, in its generality, a "copulation," an "accouplement," and the male individual possesses an organ especially suited to that act, viz., the "penis." We have now arrived at an elevated point of the animal scale, where copulation becomes necessary for the propagation of the species; and here again it may exist under several varieties. 1st. Either the ovum, immediately on being fecundated, is deposited by the female, and does not open to release the new individual until completely detached from the body of the mother, as in oviparous animals, where the ovum is not born living, but is subsequently developed by the heat of the climate (*reptiles*) or by the heat of the parent's body (*birds*); or 2nd, The ovum, when fecundated, immediately receives a tendency to be laid, but as it progresses slowly along the canal through which it is to be discharged, the germ has time to develop itself; the ovum opens in the organ of the mother, and the new individual is born completely formed: this is what constitutes the "ovo-viviparous" animals; as the viper, serpent, &c. And remark, the same animal may become, according to circumstances, oviparous or ovo-viparous; there is in fact no difference between them, except in the length of time which the ovum takes to be discharged.

There is, however, an essential circumstance by which the two former species are distinguished from the third or "viviparous." In the former the ovum contains a mass of alimentary matter upon which the germ lives, which furnishes means for its development and growth during incubation, or its partial incubation in the oviduct; during this period, which is very variable, the embryo lives upon the nutrient matter enclosed with it in the egg, as in birds, upon the yolk; but in viviparous animals nothing of this kind is seen: the germ contains nothing of a nutrient kind, for the pretended qualities of the liquor amnii &c. are no longer admitted; it is obliged to draw upon the mother for all the material necessary for its development; and hence the necessity of the kind of junction, by means of the placenta, between the parent and child in viviparous animals, which we do not find in the rest. 3rd. Finally, in the higher classes of animals, the ovum once fecundated, instead of being discharged, and submitted to external influences, becomes at once detached from the ovary, and is received into a reservoir or cavity called the "uterus," "womb;" there it becomes attached, receives the fluid necessary for its aliment through the medium of the placenta, and, developing itself at the parent's expense, at length reaches a degree of perfection which fits it to sustain all external impressions &c., and the individual is born living, perfect, and of its proper form. Moreover, after birth, the new individual receives from its mother the first aliment, the milk, a fluid prepared by a special apparatus. These circumstances constitute "viviparous" animals, in whom generation comprehends the several acts of copulation, conception, gestation, and nursing (*allaitement*).

There is also great difference in the care with which different animals provide for the support and development of their young; thus, for example, among the oviparous, some are content merely to place their eggs in circumstances favourable for their hatching, and they do this by mere instinct, and then abandon them, without being able to recognise them at a future period; as the insects. Others, on the contrary, take upon them the care and duty of incubation, recognise their young when born, and charge themselves with the office of supplying their first wants, as birds. Amongst the viviparous animals, the maternal care is pushed to a still higher degree, for the mother draws from herself the nourishment required by her offspring during the early period of its life.

In a former part of my lecture I mentioned to you how the formation of the germ was the most obscure point of the history of generation; indeed we may say it is the most difficult problem to resolve in the animal economy. We are unable to form the slightest conception of a *creation*. It is an act which will always remain a mystery in our eyes, and hence has arisen the almost innumerable number of theories on the subject of generation. It is impossible for me to lay before you, in a

course like the present, all that has been said or imagined upon this subject; let us, however, throw a glance upon the principal theories which have from time to time been put forth. Some conceive that the germ is originally formed, like a mineral, by the cohesion and union of various molecules, or by the approximation and collection of certain similar and integral parts, as in crystals; many writers, in short, regard the germ as a species of crystal. But this idea is merely ingenious, and does not bear any strict examination. What, in fact, is the analogy between the animal germ and a crystal? Or under what heads can they be compared? A crystal results from the union of several smaller parts, which parts, observe, are all given or determined beforehand; but in the first formation of an animal, we have no parts, we can discover none, and, above all, we are far from being able to advance that they are similar, like the integral parts of a crystal. Even supposing the existence of these similar parts, how are they themselves formed? The difficulty is rather increased than diminished by supposing the existence of organic molecules, for it remains to show how these can unite to form the animal. In the crystal we are alike able to demonstrate the mode and manner of union mathematically, but in man this is of course totally impossible.

Others, again, imagine that the germ was formed by an union of the male and female germs, by a kind of fusion of the male and female seed. This hypothesis is a very ancient one, and has in latter times been received and supported by BUFFON; but it is easy to show the many objections which militate against its adoption. In the first place the female does not furnish any kind of seminal fluid whatever. FALLOPIUS showed in a complete manner the falsity of this idea, and demonstrated the fact, that the female furnishes what is called the ovum, but no fluid accessory to generation. Some superficial anatomists, indeed, suppose the fluid secreted by the uterus, or even by the vagina, as capable of supplying the office of a reproductive liquor, but they have fallen into a great error; the secretions of the vagina and uterus are notoriously nothing more than mucus. The only part of the body in which any substance exists that could give foundation to a similar idea, is formed in the ovary, and there it assumes the structure and appearance of the ovum. Other writers, struck by the difficulties which surround this curious and important question, invented the theory of the pre-existence of germs, which they suppose to have been formed from all time. This is a mere negative hypothesis, and surrounded by an infinity of difficulties; once admitted, we do not know how far it may mount up, or whither it may lead us. The theory of the pre-existence of germs may lead to infinity: if one germ contains all those that may succeed after it, there is no reason why we should not go further back, and fall into the infinite divisibility of matter.

However, to lay aside suppositions, and come to observation, here are a few facts which show that the germ of the individual at least pre-exists in the mother; they are supported by experiments frequently repeated, and cannot, therefore, be rejected as without foundation. It has been observed with respect to the frog, that the tetard pre-exists perfectly formed before fecundation takes place; the contact of the male seminal fluid merely excites the development of a germ which is already formed and ready to receive the vivifying stimulus. SPALANZANI has resolved this question for the frog species, and we may by analogy extend it to others. However, we are not compelled to rest solely on the experiments of the Italian physiologist: there is no doubt but that the ovum precedes fecundation: this is a certain fact, and is easily seen in the chick. The egg is as well formed and developed before fecundation as after; the yolk is perfect, and nothing seems wanting, except the stimulus to set the parts and functions into action. This gave to HALLER a powerful argument in favour of the pre-existence of germs; he said, the yolk is only a part of the fœtus, it is connected with the fœtus by a peculiar pellicle: if, then, the yolk and egg pre-exist in the mother, and the fœtus does not pre-exist also, how can we explain the phenomena which we subsequently observed? It would be necessary to admit that the small conduit from the fœtus, advances and joins exactly the immense conduit leading from the yolk, and this is a circumstance which we should have great difficulty to conceive; it is much more natural to allow the existence of the germ, together with that of the yolk and other nutrient parts. However, we must defer the further consideration of this question to another lecture.

FECUNDATION IN FROGS.—The instinct which instigates the male frog to this act at the season of breeding is astonishingly powerful, and sometimes remarkably blind. The error of the following curious fact is strange and unaccounted for, but frogs occasionally adhere in spring with great force to the pike. The instinct of adhesion is often fatal to the female frog. A dozen males may clasp one female and press her and one another into lifeless lumps.—*Cyclop. of Anat. and Phys.* Amphibia.

ON THE

MORTALITY

OF THE

PEOPLE OF ENGLAND.

By T. R. Edmonds, *Esq., B.A., London, late of Trinity College, Cambridge.*

Any attempt to facilitate the investigation of the laws of human mortality will probably obtain the favourable regard of the medical profession. My present object is not only to make such an attempt, but also to communicate an entirely new collection of facts deduced from the *English Population Returns* just completed. The *ages* of the living contained in the population returns of 1821, combined with the ages of the dying contained in the returns of 1831, just published, will be found to add greatly to our knowledge of the laws of human mortality.

About one hundred years ago the first attempts were made to investigate the laws of human mortality, and to determine the relation between the living and the dying at each year of age. The results obtained were very distant approximations to the truth, because the materials then existing were incomplete. All ancient tables of mortality are founded upon the ages of the dying only, combined, generally, with a presumed knowledge of the total number of deaths, and of the total number of the living population at all ages. Nothing was known as to the distribution of the living population in decennial, or in any other intervals of age. In the absence of this essential information, the authors of those tables were compelled to make suppositions which were probably greatly at variance with the facts. Until the publication of the Swedish observations, towards the end of the last century, nothing was positively known respecting the relation of the dying to the living, at distinct intervals of age, for any population. In Sweden many enumerations have been made in which the ages of the living in quinquennial intervals are distinguished. The only similar enumerations which have been made in any other country, are those made by Dr. Heysham, about the year 1785, for the town of Carlisle, and those made for all England in the year 1821. The English population returns of 1831 contain no information respecting the ages of the living. The Swedish, the Carlisle, and the English, are the only observations extant which can be supposed to indicate correctly the *relative* mortality at different ages. If the absolute mortality of the total of either of these populations were known, then the absolute mortality at each interval of age would also be known. But the fact is, that no considerable degree of confidence can be placed in the correctness of the total numbers of living and of dying either at Carlisle or in Sweden; whilst in England the acknowledged errors for populous places are of enormous magnitude. It is only in France and in the Netherlands, where correctness is secured by a good system, enforced by heavy penalties, that any great confidence can be reposed on statements of the absolute mortality of the total population.

It is very generally believed that the mortality of the principal nations of Europe has diminished considerably during the last fifty years. In former times it was supposed that the annual mortality varied from one in twenty-five for large towns, to one in thirty-five for the general population of a country. At the present time a common statement is, that the mortality for large towns is one in thirty, and for the general population one in forty. The mortality of the English population is supposed to have experienced the greatest diminution; and statements have been made in parliamentary papers, that the mortality has been so low as one in fifty-five. I believe, however, that no lower estimate than one in forty-five for the total English population can be traced to any good authority. Such an estimate has been made by Mr. Milne, and has served him for the foundation of an attempted proof of the applicability of the Carlisle Table, to the mortality of all England. The proof was inconclusive, because it was assumed in the absence of any evidence that the proportion of deaths below and above five years of age, was the same for England as it had been for Carlisle. It is only within the last four or five months, that the error of this assumption has been demonstrated by the publication of the ages of the dying population of England. According to the Carlisle Table, the deaths in England during the seven years 1818-24, under and above the age of five years, should have been in the proportion of forty-nine to fifty-one, whilst the proportion really was that of thirty-five to sixty-five. Consequently, if the total number of deaths has been correctly assumed by Mr. Milne, the mortality in all England was nearly thirty per cent. greater than that indicated by the Carlisle Table, at all ages greater than five, and thirty per cent. less than the Carlisle rate at all ages under five years.

To persons interested in the study of

the laws of human mortality, there is no fact on record so remarkable as the comparatively low mortality in infancy of the English population. The observations on the English population are apparently at variance with the observations on the mortality of every other population. The existence of a principle which will reduce to harmony these apparently conflicting results is evidently probable, and ought to be sought for. I believe that I have discovered this principle; and I commenced a long series of laborious calculations founded upon this principle, six years before the publication of the present direct evidence of its truth. Three years ago I published a theoretical table under the designation of "Mean Mortality," which, for the period of infancy, bore no resemblance to any existing table. This is now the only table which bears any resemblance to the tables of mortality which can be founded upon the English observations. The principle alluded to having been already explained in No. 605 of THE LANCET, it may be sufficient here to state that it rests on the discovery of three numbers, which regulate in a very simple manner all variations in human mortality. The following are the numbers:—32.39, 2.99, and 7.97: the first measures the annual *decrease* per cent. in infancy, the second indicates the rate at which the mortality increases during the existence of the procreative power, and the third indicates the annual increase after the cessation of that power. The "procreative period" generally extends from the age of thirteen to the age of fifty-five years; but these limits are subject to small variations in different populations, and in the same population at different times. In constructing the table of "Mean Mortality," I diminished by one year the usual length of the period of infancy, or the period over which the number 32.39 presides, which simple change has been sufficient to reconcile the English with other observations.

In every table of mortality, taking quinquennial intervals of age, which are the smallest divisions that can afford any useful information, the minimum mortality occurs at the third interval, or between the ages of ten and fifteen years. The mean age at which the minimum is first attained, is generally eight or nine years. Supposing, what is very probable, that the time of attaining this minimum precedes the age of puberty by a fixed number of years (say four), it will be evident that no two individuals will arrive at this epoch precisely at the same age. For any useful practical purpose, there is, however, nothing to prevent the assumption of a certain mean age of attaining this minimum, provided the theoretical results for periods of five years agree with the results of observation.

	Absolute Mortality per cent. per annum.			Relative Mortality.		
Between ages	0—5	5—10	10—15	0—5	5—10	10—15
Sweden, 21 years..... 1755-75	9.01	1.42	.66	13 65	2.15	1.00
Ditto, 20 years 1776-95	8.50	1.36	.61	13.93	2.23	1.00
Carlisle, 9 years..... 1779 87	8.23	1.02	.54	15.24	1.89	1.00
Glasgow, 6 years 1821-26	7.73	1.29	.62	12.47	2.08	1.00
England and Wales, 7 years, 1818-24	5.32	.73	.55	9.67	1 33	1.00
London, 18 years 1813-30	10.66	1.39	.67	15 91	2.07	1.00
Stockholm, 9 years..... 1755-63	24.81	2.73	.98	25.32	2.79	1.00
Theoretical Tables.						
Mean mortality when minimum is attained at 9 years	10.18	1.37	.65	15.66	2.11	1.00
Mean mortality when minimum is attained at 8 years	6.73	.99	.65	10.35	1.52	1.00
Mean mortality when minimum is attained at 7 years	4.47	.77	.65	6.88	1.18	1.00
Northampton ditto ..... 9 years	14.73	1.95	.92	16.01	2.12	1.00
Stockholm ditto ..... 9¼ yrs.	21.62	2.77	.97	22.29	2.86	1.00

In all tables of mortality founded upon previous observations, the mean age of attaining the minimum mortality, varies from 8¾ years for general populations, to 9¼ for the population of cities. In England this age varies from 7¾ to 9 years. The above table exhibits nearly all the facts publicly known, respecting the rate of

mortality below the age of fifteen years. There exist many other concordant observations for this period of age; but they cannot be referred to as facts, because the ages of the contemporary number living were not observed. I have also given the results of five theoretical tables, which will serve to indicate how easily the facts are reconcilable with the new principle. The numbers in the columns of "Absolute Mortality" are interesting, being generally deemed correct. But a much higher degree of confidence is due to the proportional numbers in the columns of "Relative Mortality," with which alone we are at present concerned, as indicating the mean age of attaining the minimum. It will be seen that the mortality in Sweden and Carlisle under the age of five years, was nearly *fifteen* times the minimum, whilst in all England it was less than *ten* times the minimum.

In order to ascertain the mortality of an extensive population, the generally recommended mode of proceeding is, to demand the number and ages of all the dying during a certain period, together with the number and ages of all the living, from one or more enumerations. It is not desirable that the ages of the contemporary dying and living should be distinguished into smaller intervals than five years; and for ages greater than fifteen, decennial intervals of age are generally sufficient. Returns upon this principle have been obtained from Sweden at various times, from Carlisle in 1785, and from all England in 1821. This plan of proceeding would be perfect if the returns made were accurate. In the case of England, however, it has never been pretended that the absolute numbers returned make any approach to accuracy. The totals are admitted to be unknown, and it is only on the correctness of the proportional distribution at each age, that any degree of confidence can be reposed. This obvious defect might, however, have been provided against, and the absolute mortality would now have been ascertained, if the living population of 1831 had been distributed in decennial intervals of age, as was done in the English population returns of 1821. The correctness of the absolute mortality deduced, would then have been entirely dependent on the knowledge of the rate of increase of the total population, which is generally admitted to have been correctly ascertained. The absolute mortality deduced from decennial enumerations of the living in decennial intervals of age, is subject to only one source of error, that from migration. This however is of no importance when the ages of the dying are also given; because the relative mortality at each age being then known, nothing more is required than to fix the absolute mortality at any one age, say between sixty and eighty years, where there is little or no migration. The data from which the law of mortality of the English population can now be deduced, consist of an enumeration of the living in 1821, together with the number of deaths during the seven years 1818-24, the ages of the living and dying being distinguished in quinquennial intervals below the age of twenty, and in decennial intervals above that age. The scale of relative mortality indicated by these data may be converted into a scale of absolute mortality, by the use of some common multiplier, depending upon the estimate which may be made of deficiency in the deaths. I believe that the materials will be found sufficient to determine the absolute mortality in all England, within 10 per cent. of the truth.

If it be assumed, in the absence of any direct or indirect evidence to the contrary, that the increase of the English population is due entirely to the excess of births over deaths, it may be satisfactorily shown that the true deficiency in the deaths amounts nearly to twenty per cent. The increase of the population of England and Wales during the ten years 1821-31, amounted to 1897 in thousands. The corresponding number of births entered in the parish registers was 3753, of deaths 2463; giving an excess of births over deaths of only 1290 instead of 1897, the real increase of population. The difference, 607, arises from the excess of unentered births over unentered deaths. In the population returns of 1831, there is a direct statement, founded upon large numbers, that the unentered births exceed the unentered deaths in the proportion nearly of two to one. It follows, therefore, that ($2 \times 607 =$) 1214 was the number of unentered births, and 607 the number of unentered deaths, which leave the required excess 607. The true number of deaths being then 3070, and the unentered being 607, the deficiency is represented by twenty out of a hundred. The mean population of England and Wales during these ten years was 13,087 in thousands, excluding the sailors and soldiers in foreign countries supposed to be 149, or one-half of the total number. The annual deaths will therefore amount to 2.35 per cent. on the total population, or one out of 43.

The following table exhibits two scales of the absolute mortality in England and Wales during the seven years 1818-24; one consequent on the assumption that the registered deaths are deficient 20 per cent., and the other consequent on the

assumption that the deficiency is only 4 per cent. For purposes of comparison, there are also stated the results of two published theoretical tables, and the results of the Carlisle observations of Dr. Heysham.

MORTALITY IN ENGLAND AND WALES DURING SEVEN YEARS 1818-24.

Between Ages.	Mortality per cent. per annum if registered Deaths deficient 20 per cent.			Theoretical Tables.		England and Wales if Deaths deficient 4 per cent.	Carlisle 1779-87.
	Males.	Females.	Both Sexes	Mean Mortality.	Village Mortality.		
0—5	5.70	4.95	5.32	6.73	7.48	4.44	8.23
5—10	.75	.71	.73	.99	1.02	.61	1.02
10—15	.53	.57	.55	.65	.54	.46	.54
15—20	.75	.82	.78	.75	.62	.65	.64
20—30	1.03	1.10	1.06	.93	.78	.89	.75
30—40	1.24	1.32	1.28	1.25	1.05	1.07	1.06
40—50	1.62	1.60	1.61	1.68	1.40	1.34	1.43
50—60	2.50	2.26	2.38	2.40	2.01	1.98	1.83
60—70	4.74	4.36	4.55	4.83	4.05	3.79	4.12
70—80	10.72	10.29	10.50	10.04	8.46	8.75	8.30
80—90	23.82	23.05	23.44	20.18	17.16	19.52	17.56
90—100	39.33	39.85	39.59	39.85	33.45	32.99	28.44
Above 100	73.33	63.50	68.41	—	—	57.01	—
All ages.	2.35	2.20	2.28	—	—	1.90	—

The mortality in infancy having been already discussed, it will be sufficient here to remark, that for ages under fifteen, the absolute and relative results of the theoretical table of "mean mortality," much more nearly resemble the facts occurring in England, than do the results of any other published table. Below the age of fifteen, the Carlisle observations are totally irreconcilable with the English observations, upon any possible assumption of deficiency in the deaths. At ages greater than fifteen, the results of theory differ from the apparent facts in two cases only out of nine, viz., between twenty and thirty, and between eighty and ninety years of age; the difference in each case being about 12 per cent. The difference in the latter case may be disregarded, because it opposes all other observations, and because it might be accounted for on the supposition of a decreasing population between the ages of eighty and ninety years, of which there exists strong evidence. The difference between the theory and the reported fact is thus reduced to one point out of eight. But the numerous observations made in Sweden, and the single observation made in Carlisle, agree with the theory in this disputable eighth point; whence it may justly be concluded as highly probable that the apparent fact in England either had no existence, or depended upon some accidental circumstances of rare occurrence. In constructing the theoretical table of "Village Mortality" from the Carlisle observations, I acted upon a principle of this nature; and the above comparative table affords the most decided confirmation of the correctness of my proceeding. In my "Village Table" I found it necessary to deviate from the facts in two cases only, viz., between fifty and sixty and between ninety and one hundred years of age. In both these cases it will be seen, that my predicted numbers have been verified by an accurate coincidence with the facts now reported to have existed in England. Supposing the registered deaths to be deficient only four per cent. from the truth, the "Carlisle" and the "Village" tables will each nearly represent the mortality occurring in England above the age of fifteen years. But whilst the "Carlisle" disagrees with the fact for all England in *three* instances, the "Village" table disagrees in *one* instance only. It may be useful here to remark, that the extraordinary irregularities in the annual decrements of Mr. Milne's Carlisle table, have no foundation on facts, but are really in opposition to the facts upon which the table is professed to be founded. The Carlisle observations of Dr. Heysham fur-

nish nothing more than the knowledge of the rate of mortality for decennial intervals of age. These decennial rates increase in the most uniform manner; whence the proper conclusion is, that the *annual* rates also increased uniformly, as they do in my "Village Table," and as they do *not* in Mr. Milne's Carlisle table.

TABLE *showing what would have been the proportional Number of Deaths at each interval of Age, if the Carlisle Table had been applicable to the Mortality of England and Wales during the Seven Years* 1818-24.

Between Ages.	Living of both Sexes in England and Wales in 1821.	Rate per cent. per ann. at Carlisle in 1779-87.	Consequent proportion of Deaths in each interval.
0.... 5	1,566,268	8.23	12,890
5....10	1,376,315	1.02	1,404
10....20	2,218,134	.59	1,309
20....30	1,657,118	.75	1,243
30....40	1,243,169	1.06	1,318
40....50	983,306	1.43	1,406
50....60	694,364	1.83	1,271
60....70	480,693	4.12	1,980
70 ...80	239,680	8.30	1,989
80....90	65,902	17.56	1,157
90....100	5,533	28.44	157
0....100	105,304,482		26,124
		Above five years	13,234

From the above it will be seen that according to the Carlisle Table, the deaths in England under and above five years of age, should have been in the proportion of 1289 to 1323, or as 49.3 to 50.7. But the proportion really was that of 5217 to 9750, or of 34.9 to 65.1.

If the rate below five years be reduced from 8.23 to 4.52, then the deaths under and above 5 years will be in the proportion of 35 to 65 according to the facts.

There is a serious discrepancy between the results of the English population returns, and the general mass of evidence accumulated respecting the relative mortality of the two sexes. The majority of other observations agree in showing, that the mortality of the female sex is less than that of the male sex, at every age of life, in the proportion of ten to eleven. According to the English observations, the mortality of females is *greater* than that of males between the ages of ten and fifty years, in the proportion of eleven to ten. Such an extraordinary result diminishes greatly the confidence which might otherwise be reposed in the correctness of the materials, and warrants our regarding as of little value, the apparent deviation of the fact from the theory between the ages of twenty and thirty years. It is rather remarkable that the published observations on the annuitants of the British government, should be invalidated by presenting an extraordinary result of an opposite nature. According to these observations, female life is more valuable than male life, in a degree much superior to that indicated by any other observations.

Whether the mortality of the English population has been increasing or decreasing during the last fifty years, or whether the present mortality is greater or less than that now existing in France, are questions not capable of solution by any direct evidence. The only new and important fact established by the English population returns is, that the relative mortality in infancy is much less than was before supposed to exist in any country. But there is no direct evidence whereby to determine whether or not this comparatively low mortality in infancy has always existed in England and in France, or in any more temperate climate than that of Sweden. The argument for the diminution of the mortality in England, founded upon a diminished ratio of burials contained in the parish registers, cannot be regarded as of any weight, unless it be assumed, which is highly improbable, that the portion of burials out of the church-grounds has not been increasing during the last fifty years. The mortality of the French population during the seven years 1818-24, has been ascertained to be 2.49 per cent. per annum. The mortality of the English population during the same period was

2.28 per cent., upon the assumption that the deaths contained in the parish registers were deficient 20 per cent. from the total number. If the English population had been distributed according to ages, in the same manner as a stationary population, the annual rate would have been 2.37 per cent., which is the number to be compared with 2.49 of the French population regarded as stationary. There does not seem to exist any ground for supposing the circumstances of the English population to be more favourable to life than those of the French population.* There exists even one strong reason for entertaining a contrary supposition. It is a fact universally admitted, that the town population of any country suffers a rate of mortality considerably higher than that suffered by the rural population. If the mortality of the rural population of two countries be the same, the general mortality will be greatest in that wherein the proportion of town population is the greatest. In England, for example, the proportion of town population is very considerable, and is nearly twice as great as that of France. If, therefore, it be assumed, that the general mortality of England is even equal to that of France, it is a necessary part of that assumption, that the rural population of England suffer a considerably lower rate of mortality than do the rural population of France. This is an assumption unsupported by any numerical, political, or physiological evidence. That the mortality of England nearly resembles that of France, is rendered probable by the fact, that the mortality of the French army at home during peace, differs in no significant degree from that of the English army similarly situated.

One of the most valuable results of the four English population returns, is the indication of the rate of increase of the po-

* STATEMENT OF FACTS ON WHICH THE MORTALITY IN ENGLAND AND WALES IS FOUNDED.

Between Ages.	Living in 1821.		Deaths in Seven Years 1818-24.		Mortality per cent. in Seven Years, if no deficiencies.	
	Males.	Females.	Males.	Females.	Males.	Females.
0 — 5	791579	774689	282196	239182	35.65	30.91
5 — 10	693858	682457	32653	30173	4.71	4.42
10 — 15	603613	569366	19910	20244	3.30	3.56
15 — 20	509586	535569	23773	27391	4.67	5.11
20 — 30	†755780	901338	53626	61701	6.45	6.85
30 — 40	593662	649507	46142	53417	7.77	8.22
40 — 50	482329	500977	48873	50214	10.13	10.02
50 — 60	342204	352160	53513	49671	15.64	14.10
60 — 70	231509	249184	68528	67918	29.60	27.26
70 — 80	115032	124648	77085	80138	67.01	64.29
80 — 90	29587	36315	44051	52318	148.89	144.07
90 —100	2253	3280	5538	8169	245.81	249.05
Above 100	60	129	275	512	458.33	396.90
Ages specified of	5151052	5379619	756163	741348	14.68	13.78
Ages omitted of..	683114	765090	25096	27157	—	—
Half of Sailors and Soldiers	159650	—	—	—	—	—
Probablecomissions	—	—	204301	179935	—	—
Total	5993816	6141709	985560	948440	16.44	15.44
Between 10 and 50	3104620	3156757	192324	212967	6.19	6.75

(† The rate of mortality of Males between 20 and 30 years of age, is derived from adding to the number living one-tenth part, which is nearly one-half of the Sailors and Soldiers who encountered risk of death in England.)

pulation. The increase for the last thirty years on the total population has amounted to 15 per cent. every ten years nearly. This ascertained rate of increase agrees with the supposition made in these returns, that the births have been increasing at the rate of 1½ per cent. per annum, or 16 per cent every ten years. Upon these materials I have founded a comparison of the numbers resulting from my theoretical table of "Mean Mortality," and the number of females ascertained to be living in each decennial interval of age in the year 1821. I have supposed the births to have increased 16 per cent. every ten years for the fifty-five years 1766-1820; and I have also supposed the births before that period to have been stationary, which is equivalent to supposing the population above fifty years of age to be stationary. In making this latter assumption, I have the support of Dr. Price, one of the highest authorities on the subject, who expressed a decided opinion that the population of England about the year 1765, was either stationary or decreasing.

Between Ages.	Fact.	Hypothesis.	Stationary Population according to Table of Mean Mortality.
	Females living in 1821.	Births, including 16 per cent. every ten Years.	
0— 10	10,000	10,000	10,000
10— 20	7,583	7,591	8,805
20— 30	6,186	6,035	8,120
30— 40	4,457	4,666	7,284
40— 50	3,438	3,477	6,296
50— 60	2,417	2,459	5,165
60— 70	1,710	1,746	3,668
70— 80	855	856	1,797
80— 90	249	199	418
90—100	23	11	23
0—100	36,918	37,040	51,576
Ages omitted if ..	5,251	—	—

From the above it will be seen, that the hypothetical results are almost coincident with the facts at every age. Between twenty and forty the total numbers agree; the apparent excess of living between the ages of twenty and thirty, is an event which might be expected to follow from the known disposition of females between thirty and forty to understate their ages. Above the age of eighty years the population was apparently decreasing. But the numbers are so small, and the uncertainty of age is so great, that no safe conclusions can be founded on these appearances. The near coincidence of the numbers in the above comparative table, inclines me to adhere to the table of "Mean Mortality" as a correct representation of the mortality of the English people. Without the support of the indirect evidence of this comparative table, it would have been necessary to reduce still more the mortality in infancy, which in the table of "Mean Mortality" is already 20 per cent. less than in any other table.

Grafton Street, Fitzroy Square,
May 30th, 1835.

PHRENOLOGY.—The April number of the *Parisian Phrenological Journal* contains a Discourse pronounced at the annual meeting of the Phrenological Society of Paris, 22nd of August, 1834, by Professor Andral, the president. The object of Professor Andral, in his Address, is to show that phrenology "ought henceforth to form a part of the grave and serious studies of physiology." He states that, though not a single organ in the brain had been determined by Gall, "the foundations of the science would not on that account have existed the less." He regards exceptions to well-established principles as apparent only; and quotes with approbation the remark of M. Bouillaud, that, "while every theory which is contradicted by a well observed fact is false, it is not less true that every fact which is in contradiction with a rigorously demonstrated theory has been ill observed." "If phrenology," he adds, "be true, give yourselves no uneasiness about its future success; for there is no example on record of any truth which, once launched into the world, has failed there to make its way." The following extract from the account of the Society's proceedings by Dr. Casimir Broussais, shows that the members take a sound view of their duties:—"I affirm and repeat, in the name of my colleagues, that we study phrenology with the completest independence: we are fully convinced of the reality of its fundamental principles, but far from pretending that the science is complete, we do all in our power to contribute to bring about such a result."—*Edinburgh Phrenological Journal*, June, 1835.

ABSTRACT OF THE EVIDENCE OF

MEMBERS OF THE ROYAL COLLEGE OF SURGEONS IN LONDON,

TAKEN BEFORE THE

PARLIAMENTARY MEDICAL COMMITTEE IN 1834.

EVIDENCE OF MR. GUTHRIE. *

(*Continued from page* 288.)

ACCORDING to the answers given by the witness to the questions which followed the evidence that closed our abstract last week, it appears that a printed course of study was first prescribed to candidates for the diploma of the College in 1819, and that before that time the "examination" of candidates was a very simple affair indeed: Thus Mr. Guthrie says with regard to the proofs he afforded of his own qualification to practise surgery: "When I went up for an examination in 1800, the master *asked me as to my education*, and he declared it to be satisfactory."

29. The system of making money at the schools and hospitals by the sale of "certificates" was, even in 1813, quite in its infancy, for the witness says, "the only certificates at the time required were one course of anatomy and one of surgery; and it was found that even this was *so much more than the public could meet*, that his Majesty's Government were obliged to give warrants to persons, finding they had not enough men who could obtain this simple qualification: and some of those men who came out to us in Spain, committed such destruction in consequence of their ignorance as to render it most deplorable; and I now place this fact on record, in order *to prevent a circumstance of the kind occurring again*." The simplicity of this remedy for the evil is remarkable.

30. *Chairman.* "Since 1819, have not the examinations been more extensive, and conducted with greater strictness?—*Witness.* Certainly, as far as regards *extent*. (The witness says nothing of *strictness*.) The College stands upon the basis of public opinion, and we do not value ourselves upon charters, or Acts of Parliament, or any such matters; we have endeavoured to make ourselves *useful to the public* according to the state of the public at the time; and as we have found the diffusion of knowledge and the *diffusion of money* increasing, we have gradually demanded higher qualifications from our candidates, always however keeping to a minimum." This minimum the witness stated (see paragraph 25 of our abstract last week,) was "the lowest possible quantum of education." Such is the way to be "useful to the public!"

31. The chairman next put the following question, and received the following answer, respecting the past and the present opinions of Mr. LAWRENCE, once a medical reformer:—*Chairman.* "A gentleman who is now a member of the Council of the College said, in 1826, of the then-existing regulations: 'The curriculum sent forth under the authority of the Court of Examiners, does not contain some of the most important parts of surgical education. As a member of the Royal College of Surgeons, and as an English surgeon, I disclaim this narrow scheme of study, as unworthy of the present state of the science, injurious to the surgical profession, and calculated to disgrace us in the estimation of foreigners.'"—*Witness.* "I believe that gentleman formerly made speeches which he *much regrets* now."

32. Some extraordinary statements follow. The witness has already repeatedly declared that the practising of pharmacy places a veto on the election of any surgeon into the Council of the College; yet in answer to a new question he states that the College do not examine in pharmacy and midwifery only because the Apothecaries' Company require a knowledge of that branch of medicine. His words are,—"For although it is necessary that *a surgeon should understand pharmacy, the practice of physic, and midwifery*, we do not make it a specific matter in our regulations, *when we find it is required of him by another body;* which body, by law, it is almost imperative upon him that he should belong to." What follows is also well worthy of attention. "There is another consideration with reference to which our whole conduct from the year 1800 must be viewed. The College of Surgeons is a body that has no power; give us *power*, and we will be *as despotic and arbitrary as any body of men in the kingdom*." (No doubt that "WE" should.) "But we have no power, and the consequence is, that we have been obliged to act with great caution. We have never ventured to lead the public; we have been guided by them. We have watched what was going on in the world, and have *followed*, after due consideration." And this is the "leading institution" of the profession. They *follow* in the wake of *science*. They

* For an index to the contents of this portion of the evidence, refer to the "Contents" on the cover of this week's LANCET.

lead in the van of corruption. But something better still comes from the witness. "At the same time," says he, "I will venture to say, that at this moment the surgery of Great Britain is at *the highest point of elevation of surgery in any part of Europe*, and that is very much owing"—to what? Is it to the circumstance that the College has "followed what was going on in the world?" Oh no. The witness has already forgotten that declaration, and now actually declares that this "high elevation of surgery in Great Britain is very much owing to the EXAMPLE and LABOURS of the members of the Council, and *the regulations the College has made* from time to time!" The rest is positively wonderful; and there probably is not a second man in the kingdom who would risk his reputation in a similar statement: "The truth is, that, at the present moment, there are a number of men who, I may say, are OVER-EDUCATED! There are many men who are educated as surgeons, at *an expense which never can be repaid to them by their practice*. It would be useless for the College of Surgeons, which has no power to enforce its orders, to say to a man, 'You shall be educated up to the highest point of your profession.'" Not ten minutes before, this very witness stated that a high *money qualification* was demanded of candidates for the diploma of the College,—that is to say, the price of "certificates" at the hospitals, and the fee for examination at the College, were raised to a very high sum, because the "diffusion of money" was tolerably abundant. Yet those who pay *the whole* of the various fees are "over educated," and cannot get a just per centage for their expenditure in practice!

33. Mr. Guthrie gives the following reason for his having black-balled Mr. Lawrence, when Mr. L. was proposed as a member of the Council of the College of Surgeons:—"For statements made in the published speeches of Mr. Lawrence, I, as one of a minority, gave a black ball for that gentleman, when it came to his turn to be elected a member of the Council. In condemning the curriculum of study prescribed by the Council, Mr. Lawrence should have taken into his consideration the schedule also of the Apothecaries' Company. *We* should require the practice of physic and chemistry and other things, if they (the Company) did not. He has *since taken this view of the matter himself*."

34. The witness has just said that if the Apothecaries' Company did not examine in physic and chemistry, the College would do so. The very next moment he forgot this answer, for on the chairman asking "If a candidate has not already been before the Company of Apothecaries, what security have you that he understands any of the subjects omitted in your course?" the witness said "we have"—not an examination like that instituted by the Apothecaries' Company, to replace the deficiency, but "a certificate (a CERTIFICATE!) of some respectable man that the candidate has studied medicine and his profession with the man who gives the certificate, to *the best of his ability*."

35. "Is it required at the College that candidates shall have served an apprenticeship?—No. We require a certificate that they have been engaged six years in the acquirement of professional knowledge, which is sometimes a cheat, I admit.

36. "Are you sometimes very much imposed upon as to the time said to have been passed in the acquirement of professional knowledge?—We are.

37. "What should you consider as sufficient testimony in a certificate?—His having been actually engaged in compounding at the mortar, attending patients, reading books, studying at a dispensary and hospital, and gaining all the information he could. He comes to the secretary, and announces his desire to become a member of the College; who first asks him if he be twenty-two years of age, and requires him to produce a certificate to that effect, which is *sometimes a forgery*. The secretary having got that, demands from the candidate a certificate of five or six years of professional study, who then produces certificates, that he has been studying under his master for the required period of time. Within the last three weeks a gentleman came before the College, and *passed himself for another*. When the real man, who was in Ireland, got his diploma, a third party peached, and we have ordered them both to be prosecuted.

38. After some account of the "qualifications" and "privileges" of students who undergo the farce of being "articled to the College," the witness (the examiners of the College not being men of classical education, it is to be presumed) proposes, "that every candidate shall go before the rector of his parish or parish priest, and obtain a certificate that he is reasonably qualified in the Latin language."

39. The following admission would be intelligible did it come from any other quarter than the College. *Question.* "It appears that the College does not require a course of physiology distinct from that of anatomy?—*Answer.* It *never* should be separated, in my opinion; it is only separated *for the sake of money*. A teacher of anatomy ought to be a competent physio-

logist, and to separate physiology is to make a course which will never be followed."

40. Alluding to the preposterous demand that students should be *five years* employed in acquiring the knowledge, and obtaining the certificates required of candidates for the diploma, the chairman asked, "Is it not possible that the present curriculum of study may be passed in the course of *eighteen months*?" And the witness replied, "Possibly the whole curriculum, as it stands now, may be gone through in *fourteen months of* REAL WORK."

41. With *this memorable confession the examination* of Mr. Guthrie was concluded for that day. On the 29th of April he was had up again, Mr. Warburton being still in the chair, when the examination was recommenced, and the chairman first elicited the fact that a motion for the admission of accoucheurs (members of the College) into the Council, had once been put and lost. An account of the courses of lectures ordered by the Council to be attended by candidates, was then given by the witness, and terminated by the subjoined answer to the following question.

42. "What was the object of the provision, that certificates be not received from the same lecturer on more than two branches of science?—Because it was made *a trade of*. Gentlemen got up five different sets of lectures, and all badly, *for the sake of the money they got from each*." So that, although the Council and their dependants in the hospital schools were abundantly aided to get money by their avocations, yet the moment that persons out of those institutions attempted to enrich themselves by uniting the duties of a teacher, a "regulation" was issued to stop the proceeding, and prevent the loss of certificate-money in the "great recognised schools!" Why lecturers, either in or out of the hospitals, deliver courses of lectures, unless it be "for the sake of the money they get from each," we are quite at a loss to divine.

43. A question relative to the preparation and mode of gaining admission to surgical practice in England having been put to witness, the following essay was delivered by him. The part marked in *italics* is well worthy of notice, after what the witness has said about the proof of five years of "professional study" being required by the College for candidates for its diploma:—"I will begin with what may be considered the lowest grade in professional education, that of the chemist and druggist. A person in this way of business, wanting an assistant in his shop, takes a lad at fifteen or sixteen years of age, with little or no education, perhaps as his apprentice, but more likely without articles. The lad learns as much as he can during the space of five or six years, and then considers himself as fit, perhaps, to be a chemist and druggist as his master; or if he do not, he then counts *four of the years he has served, as four years of professional education*; and *begins that course of study which is enjoined by the Company of Apothecaries and the College of Surgeons*. This occupies *two years more*. Such attendance at the shop of a chemist and druggist counts for four years of the *study* required by the College. We are willing to take him, as long as he can show that he has *really* occupied his time in *study*. He is thus educated as a professional man, as a surgeon and apothecary, with the lowest possible degree of means that can be given to any such person." And now let the surgeons of England peruse with care the picture of themselves which this insolent witness draws, in continuation of his reply to the question of Mr. Warburton. "He has, probably, had *no preliminary education*; it is very likely that, in some instances, he may be *little more than able to read and write*; and as to the dead languages, in a great number of instances he knows *nothing about the matter*. Now this is an exceedingly defective mode of education, and one that, unless the person has an opportunity of educating himself for several years after, can never render him a man valuable in the estimation of the public; and it cannot be for their advantage that such persons should exist. Supposing that he is not qualified, or *cannot* qualify himself, to become a member of the Apothecaries' Company, or of the *College of Surgeons*, he goes back to his native town, sets up a shop, and practises, in defiance of both, as chemist, druggist, surgeon, apothecary, and man-midwife. If the Apothecaries' Company are informed that he is acting as an apothecary, they may take the necessary steps to punish him, and probably make him take down the title of 'apothecary;' but as the College of Surgeons possesses no such power, he keeps up his titles of surgeon and man-midwife, in open defiance of all the authorities of the country." In proof of the injurious effect of this kind of practice, the witness then put in the following circular, addressed to the different inhabitants of the town in which the writer resided: "'Sir, I have taken the liberty of enclosing my card, and beg to inform you that I have everywhere discontinued charging for journeys; being perfectly satisfied to attend for the liberal profit always attached to medicines required

during illness. I am, Sir, ——.'" "And," said Mr. Guthrie, "here is the card:—'Mr. ——, Member of the College of Surgeons, and of the Apothecaries' Company, London, Licentiate of Midwifery,—which license is not granted by any public body in this country, and which of course, therefore, he cannot have obtained."

44. As a further proof of a disastrous state of things in medicine, of another kind, the witness modestly put in the following letter to himself:—"Here," said he "is a letter addressed to me, as President of the College of Surgeons: '*Most learned Sir*,—For the honour of the profession over which you preside, and of which you are *so distinguished and skilful a member*, do, pray do, get a stop put to the indecencies such as the enclosed.—Clericus." The enclosure was a quack advertisement, and the remedy which Mr. Guthrie proposes is this,—"An Act of Parliament which shall enable *the police* to prevent those scandalous indecencies of quacks from being practised before us!"

45. A remarkably rich scene follows. The chairman desired the witness to proceed with his account of "the prevailing modes in which young men are prepared for and gain admission into surgical practice." *Mr. Guthrie.*—"The druggist being disqualified from practising as an apothecary, undertakes to practise every thing. Now the question is, what restrictions should be affixed to the business of a druggist? Some members of the College say, 'he should not be allowed to *practise at all*, not even to give a dose of medicine;' and looking only to *their own interest*, are very anxious upon this point. But it appears to me, that it is *impossible* to do this, consistently with the advantages that the public derive from the druggists. I shall take the liberty of stating a thing which happened to a friend of mine, a gentleman, a Member of this House. Going home at night, he finds himself unwell; so he goes into the shop of Mr. Grindle, the druggist, in Pall Mall; and says, 'Mr. Grindle, I have a pain in my stomach, and should like a dose of medicine.' Mr. Grindle says, 'I cannot give it to you, because you have not been prescribed for by a physician or surgeon; and the Act of Parliament will not allow me to do it.' My friend replies, 'Have you not got the very prescription which Mr. So-and-so gave to me last week?' Mr. Grindle answers,' Yes, I have, Sir, here it is.' 'Well, give me that.' 'No, that was not for this complaint.'* It appears to me, therefore, that the Act of Parliament ought not to go so far, as to prevent a druggist from prescribing over the counter, as it is termed, to anybody who may stand in need of it: more particularly as, in some villages, a qualified practitioner is not to be found; and if one does live there, he may not happen to be at home." (Of course, to render a new law just in its operation, it must put the druggist always in the way of knowing when the qualified practitioner is "not at home.") "In order to enable the druggist to do that with precision, and with safety for the public health, he ought to undergo an examination, which should extend no further than his knowledge of the properties of drugs, and the right doses to be administered at any one time. Now it is a doubt with me how this examination should be conducted," &c. &c. The rest of this sapient legislator's scheme is not worth registering,—even for its absurdities.

46. Well. After the definition, the card and the circular, just given in by the witness, it would be supposed that the reply of the witness to the last recorded question of the chairman was ended. But the chairman happened to ask him "how he would regulate the education and admission into practice of the *surgeon-apothecary*;" when, to our astonishment, the witness takes up the subject of the existing order of things anew, and, with the utmost freshness and gusto, thus proceeds with his disgusting and impudent libel:—"The next grade in the profession is the general practitioner of the present day. Now it is here that the great reform in the profession is wanting. A gentleman, after having been duly educated, comes up to London, and being approved by the Society of Apothecaries and the College of Surgeons, goes back to establish himself, with credit, *as we always hope*, in his native town. As he must probably visit patients six, eight, or ten miles around the country, there must be somebody at home to give an answer, or to give out a dose of medicine, if the master sends home for it. The first thing he does, therefore, is to take an apprentice. Now a student of my own came to me two years ago, and said, 'I have settled myself *in the City*.' I said, 'I hope you will succeed.' 'Yes,' said he, 'I have nothing to do at present, but I hope I soon shall: but I want an apprentice.' So I said, 'What do you want with an appren-

* How comes Mr. Grindle, the druggist, to know this? And how came "the Member" (nothing less than a *Member of Parliament*, of course, for Mr. Guthrie's acquaintance) not to know the difference between a "pain in the stomach" and some other malady which was not "that complaint?" How like a fiction altogether

tice, if you have got nothing to do yourself?' 'But I *may* have,' he replied, 'and then I should want somebody to answer the door, and receive messages that may be sent to me: and, if I have any thing to do, to make up medicines, and, in fact, to answer any purposes which may be desired of him.' Now *this is the case in the country;* and as it is imperative upon a gentleman to have somebody in his house, he is willing to take *a boy* upon the most moderate terms. There are always in every village, persons in such a situation of life, that they can afford to pay a moderate fee with a son, although they are not competent to give him that preliminary education which would qualify him to take a proper and respectable place in his profession. A surgeon, therefore, takes the boy for a small fee, who does all sorts of work, but *learns comparatively very little.* At the end of his apprenticeship, or at the *end of five years,* he *comes up to London,* or *goes to Edinburgh,* for THOSE TWO YEARS OF STUDY WHICH ARE REQUIRED OF HIM BY THE COLLEGE. He *then returns,* being NOW MADE A QUALIFIED PRACTITIONER. But this is not the sole misfortune. The original gentleman having got a little more practice, takes a *second* and a *third,* and *great is the manufacture,* in this way, of *young doctors,* who are, for the most part, in regard to their preliminary education, unqualified people. Now it appears to me to be a main object, in order to advance the respectability of the profession, to *ensure reasonably-well-qualified persons* for this particular branch of practice."

47. We revert here for a moment to a question which constitutes number 37 of the paragraphs of this week's abstract. Forty-three questions in advance of that inquiry the witness says, in addition to his former answer,—"When the certificate of a man having been five years engaged in the acquirement of professional knowledge is brought to us at the College of Surgeons, it is often *a regular piece of forgery*; and we have *no means, generally, of ascertaining that it is not so.* We have no doubt that we, the College and the Apothecaries' Company, are cheated upon this point. We often get certificates from distant parts of Ireland and of Scotland, and probably old articles of apprenticeship, in which the name of one person is substituted for that of another, and the dates are altered. That is exceedingly common, *nothing more so.*" What can be said of the certificate system, which shall exceed in enormity the exposure contained in this admission?

48. On the subject of quackery the profound President of the College expressed the following opinions:—"I have considered this matter, as far as lies in my power; and I do not think it possible that any Act of Parliament can prevent a man from acting as a quack. There are a great many ladies and gentlemen that will dabble in medicine, and there can be no doubt that if those people were forbidden to practise, or sell their medicines, they would do that privately and surreptitiously, which they are now allowed to do openly; and therefore if the College were to endeavour to bring such a bill into the House of Commons, we should be beat, head over heels, upon the very point of preventing people from practising who wish to practise for *the public advantage.* We should have gentlemen rising up on all sides, and saying, 'I was cured by Mr. St. John Long; I was cured by Morison's pills, when the regular doctors could not do it.' Therefore I do not suggest that quacks should not be allowed to practise, if the regular practitioner be allowed some corresponding advantage for the money he has expended, and the knowledge you have forced him to acquire. I have no objection to a man selling, if he pleases, quack medicines. People will have them. But I would have such a tax imposed upon them as should be a protection to the regular apothecary. I have no objection to let people take as much quack medicine as they please, but they should not have it at a cheaper rate than it is usually furnished by the proper apothecary. At least you should put quacks to *some expense*; they should pay a fine in the first instance, TO BECOME IRREGULAR PRACTITIONERS, and pay for an annual license to continue so afterwards, *just as a person takes out one* TO SHOOT GAME. He should pay a fine at first, take out an annual license afterwards, and be punishable for ignorance as well as negligence; whilst a duly qualified practitioner should not pay any fine, nor for any license, and should be punishable for negligence only. I believe the profession in general would be satisfied with that degree of difference between themselves and empirics." These suggestions may seem too monstrous to have been made. Nevertheless they are extracted *verbatim* from the evidence.

49. If the foregoing remarks appear monstrous for the *matter* they contain, the following remarks are no less strange for their *manner.* Rules of grammar and the laws of expression were surely never more thoroughly defied:—"The surgeon-apothecary, who already possesses two *qualifications,* says, 'I am *a midwife also.*' Now, *being* a midwife is a *very important thing in this world.* There is nothing, I believe, *interests* the feelings of a man so much as his wife under *those*

circumstances, and the birth of his child; and I know nothing more honourable to Sir Robert Peel, when Secretary of State, than *the efforts he made upon this subject*: and I only regret that he did not take a little more pains, *when* he might have settled it entirely to his own satisfaction, and to the satisfaction of the public. I am clearly of opinion that if any one single examination be necessary, one in midwifery is *so*. A man's qualifications should be as rigorously scrutinized in midwifery as in physic, surgery, or pharmacy. The distinction between the surgeon of an hospital or of a large town, and the surgeon of a country village, is shown by this; that the village surgeon is rarely called upon to perform a great surgical operation. He, as a surgeon, is very likely quite competent to do it, but he *never does do it*. If there is a great surgical operation to be done, the patient is sent to the hospital in the county town, or the surgeon calls in another practitioner to *assist him*: they *take their time*, and they *perform the operation*. But, if an unfortunate woman is in a state that requires the immediate performance of a serious operation, involving the life of both mother and child, the village surgeon must perform it upon the spot, upon his own judgment, and according to the dictates of his own conscience; he must sacrifice sometimes the life of the one, in order to save the life of the other. The accoucheur, therefore, ought to undergo a *thorough education*, and to be declared competent for the practice of that branch of the profession, by proper judges. There is no board, at the present moment, and no authority, under which such person can be examined; and it is one of the greatest defects, probably, that have existed with relation to the practice of any department of physic in this country. The College of Surgeons has not been unmindful of all these different points. It has been charged by a great number of persons with a gross dereliction of its duty. It has been alleged that it has pocketed the money of its members; that it has robbed the public; that its Council have been gross peculators; that they have been everything, I believe, except rogues or rascals *punishable at law*, for not having prevented persons from practising irregularly, for not having taken pains upon the subject of midwifery, for not having done a variety of things, all of which they have attempted to do. I now hold in my hand six Bills, brought into the House of Commons upon the subject of surgery. The first was in the year 1796. These six Bills the College of Surgeons have at different times brought before the legislature, and I am satisfied that any one of them, if introduced at the present moment, and *unopposed by this Committee*, would pass through both houses of Parliament by acclamation. They claim, first, that the College should have the power of examining in surgery everybody claiming to practise it. So desirous were the College of doing that, that they left out in the last Bill every power but that, and the further power that no male person should practise as a midwife, unless he had been duly examined and proved to be *a surgeon*; because a considerable degree of midwifery education necessarily accompanies the education of a surgeon. The College, desirous of doing its utmost upon this point, and despairing of ever getting a Bill through Parliament, unless many members would take it up in a serious manner, thought it its duty to do its utmost upon this question, without such sanction; and, therefore, two years ago, proposed to institute an examination in midwifery. Now we being, as I believe, *very honest men*, thought that if our Court of Examiners, not being practical men in midwifery, were to undertake to examine in midwifery, the public would not consider our testimonial of qualification of much value. We therefore proposed that all surgeons should be examined in midwifery by two professors of midwifery practising in London, men of great eminence in their art, in the presence of the president. All the regulations for this purpose went through the Council twice, and then it was laid before the Counsel of the College. Now this was carried through the Council with great difficulty, for there are some gentlemen who are very obstinate upon the subject of midwifery; but, unfortunately, our counsel declared that we had not authority under our charter to institute such an examination. Now I am not satisfied that the mode of examination we had planned was the best for adoption in any future arrangements, and I would recommend that this examination be given over to the Society of Apothecaries. The examiners of that society do not consist of the corporate authorities, but of general practitioners named by them. I understand that the President of the College of Physicians has recommended that he should send *a detachment of three physicians* to the Board of Examiners of that Society. Now several members of the Council of the College of Surgeons wish that our College also should be at liberty to depute, from its own body, three surgeon-accoucheurs, eminent in the practice of midwifery, to the said Board of Examiners; and that these persons, with four persons appointed by the Society of Apothecaries, should

superintend the examinations in midwifery as well as pharmacy, of the candidates for the license of the Society of Apothecaries. I believe that a very good effect would be thus produced.

50. The question of the union of the profession in ONE FACULTY—medicine itself being one and indivisible—is thus discussed by the witness:—"There is an opinion entertained by some persons, that a single board, formed of physicians, surgeons, accoucheurs, and apothecaries, would answer better; but I myself do not see any merit in destroying the institutions which have existed for years, and which have raised the different branches of the profession to which they belong to the highest point of elevation that they have attained in any country of Europe. And further, I do not think it would be for the advantage either of the public or of the candidate that it should be so. The President of the College of Physicians would be staring at the president of the College of Surgeons whilst the latter was examining in surgery, and the President of the College of Surgeons in his turn would be very much distressed at the waste of his time whilst the President of the College of Physicians was examining in medicine; and both would be sadly regretting the waste of their time whilst the Examiner of the Apothecaries' Company was examining upon those branches of pharmacy in which the two Presidents have comparatively little interest. So also with the accoucheur, and the most eminent men of the Colleges would be obliged to resign those situations, from their inability to give the necessary attendance, though the value of the diploma is dependent upon the names which are attached to it. I know that an Act of Parliament can do *anything*, and if it be desirable to see the junior members of the profession in the place of examiners instead of the seniors, it is my firm belief that such a consequence would follow the establishment of one general Board."

Was ever before such rubbish uttered? Suppose, thou surgical Solon, that seniors abound in the profession, who are severally and intimately versed in the combined knowledge of all the Halfords, all the Guthries, and all the Ridouts of the existing institutions—(and there are scores and hundreds of such men)—where flies thy contemptible argument about the "waste of time" among half and quarter-educated practitioners who are waiting for the respective *questions* of their ignorant colleagues in office?

The next subject discussed by the witness is the remuneration of practitioners.

THE LANCET.

London, Saturday, June 6, 1835.

ENGLISH SURGEONS! read with care the evidence of GEORGE JAMES GUTHRIE, the President of YOUR College, in this week's number of THE LANCET.

WE are unable, from want of space, to take any notice of the long and somewhat confused report of the proceedings at the meeting of the *Zoological Society*, which we find in the daily papers, the Earl of DERBY in the chair. It must suffice at present to say that the friends of Mr. Sabine and the opponents of science in the society created so much uproar at the meeting that even the mode in which the ballot ended was not understood by many present. We find the following in the *Literary Gazette* of Saturday last, on the subject of one point in the discussion.

"The Earl of DERBY does not hear "very well, and a remark (from Mr. VI-"GORS) to the effect that the Society "was under the management of one indi-"vidual, the noble Earl applied to himself. "No one dreamed of such an explanation. "Most preposterous, however, was it to try "to exculpate another individual, (Mr. "Sabine) who will long be held in dear "remembrance at the H. S. (Horticul-"tural Society) from the charges which "were brought against him." The words in parentheses we have ourselves added.

CHOLERA IN NORWEGIA.

THE third Number (9th volume) of *The Eye*, a medical periodical published in Christiana, Sweden, contains a series of communications upon the Asiatic Cholera of Norwegia, in the year 1833, by Dr. A. VETTER, which may be read with some interest as serving to complete the history of the disease in the different countries of Europe.

While the cholera prevailed at Drammen during the year 1832, the public health at Christiana was perfectly good

although the communication remained entirely uninterrupted between the two places. No attention was consequently paid when the disease again appeared at Drammen; but now, unfortunately, the disease extended to Christiana in fourteen days after its second appearance.

This epidemic was the most severe under which the state had ever suffered. The following particulars taken from official documents will give an idea of its origin and progress.

Christiana, traversed from north to south by the river Agerselv, is built in a position sufficienty healthy, but the greater part of the streets are narrow and winding, the houses are bad, they are inhabited by working people, and a good deal of the ground is marshy and moist in the neighbourhood of the river Fjords.

On the 29th of September a man arrived at Christiana from Drammen in a state of drunkenness: on the 1st of October he was seized with cholera, and he died on the 3rd. His wife was taken ill on the same day with similar symptoms, but without cramps of the hands, and on the 5th she was conveyed to her daughter's house at some distance in the country: on the day of her removal three children belonging to a family in the town quarter were also taken ill. The physicians immediately recognised the disease. The woman died on the 6th; her attendant was taken ill in the evening, and died early on the 9th. Every precaution was now taken to prevent contagion, and the house was isolated. The disease spread, however, in spite of every precaution, and on the 10th of Oct. the cases amounted to ten deaths: for six days no new cases appeared, but on the 11th, two persons were suddenly attacked, and died in fourteen hours. On the next day four women were attacked, and on the 12th, the existence of the disease was officially declared. The city was immediately divided into nine districts, under the care of thirty-two physicians, and every possible precaution was adopted; but the epidemic spread from parish to parish, in the direction of east to west. The decline of the disease took place in the same order as the attack, viz., the first attacked were soonest free. The symptoms were exactly the same as those observed in other countries.

The population of Christiana amounts to 27,200 individuals; of these, 1430 were attacked, and 817 died. The following table exhibits the rate of augmentation and decline:—

Week.	Attacked.	Week.	Attacked.
Oct. 1st. 1	7	7	83
2	21	8	35
3	118	9	23
4	395	10	22
5	553	11 (Dec. 15)	6
6	168		

The number of males attacked exceeded a little that of the females; 676 to 640; and if we examine the progress of the disease according to ages, we find

	Males.	Females.	Total.
From 0 to 1	4	3	7
1 — 3	34	21	55
3 — 5	17	19	36
5 — 10	51	55	106
20 — 30	100	78	178
30 — 40	177	147	324
40 — 50	158	131	289
50 — 60	83	89	172
60 — 70	32	57	89
70 — 80	17	29	46
80 — 90	2	8	10
90 — 100	—	3	3
Over 100	1	—	1
	676	640	1316

Up to the age of 50 the number of males attacked exceeded the females; but no age, even the most advanced, was exempt. The period during which the greatest number of deaths occurs is from 30 to 50 years of age.

Among the gentry (*standes personen*) only 25 individuals were attacked, 14 died; of the labouring and poorer order 962; amongst 500 prisoners only 75 were attacked; a proof that the cholera was at least not very contagious, for in the House of Correction during the year 1809, not less than 119 prisoners were seized with epidemic fever.

The number of deaths which annually takes place at Christiana is about 686: during the year 1833 the number amounted to 1665, a mortality evidently depending on and produced by the cholera. It is also worthy of remark how the rela-

tive mortality was much higher during the first half of the epidemic than the last. Thus during the first five weeks, 1094 individuals were attacked, and 671 died; a mortality of 61.33; while of 336 attacked during the latter period, only 146 died, or 43.45.

It is remarkable that while the disease reigned with such severity at Christiana, the surrounding districts remained almost free; out of a population of 5456 individuals only twenty-three were attacked, and of these seventeen died.

On the recommendation of the Board of Health some experiments were made with the treatment recommended by Dr. Stevens, which consists, as our readers are aware, in the employment of refreshing and laxative salts, of rhubarb, &c., but no satisfactory result was obtained. In several cases the patient was attacked either during the typhoid stage or during his convalescence with a peculiar exanthema, which sometimes appeared only on certain points, such as the face and extremities, but generally was spread over the whole body; it was of a deep-red colour, and elevated a little above the skin, though without any heat or itching. Sometimes it resembled urticaria, sometimes scarlatina, and after remaining a few days disappeared without any desquamation. Patients attacked in this way generally recovered. A symptom which frequently supervened when Dr. Stevens's method was employed, was a bloody diarrhœa, which was constantly mortal. Of sixty-three patients treated by Dr. Stevens's method in the hospital of Dr. Egeberg, forty-five died. However, we should remark, that the saline method was only employed in the most severe cases. After the cholera period had passed over, a congestive state often appeared, with pains in the breast and hypochondrium, or vesical region. These were sometimes of a spasmodic nature, and gave way to epispastics; sometimes they required an antiphlogistic treatment. In two cases complete ischuria succeeded the supra pubic pains, and brought on death under the greatest torture in twenty-four hours. A quarter to one grain of nux vomica, two or three times a day, was employed with success to combat the diarrhœa which persisted.

We shall close this brief notice with the following case, which gives rise to several curious points of consideration. A woman, twenty-eight years of age, and in the ninth month of pregnancy, was brought to the hospital on the 24th of October in a state of complete collapse. Labour had set in, and the os uteri had begun to open. She was bled to eight ounces. Two hours after, the congestion towards the head seemed diminished, with moderate cramps in the lower limbs, diarrhœa, and vomiting; the pulse now became a little fuller, and the os uteri more open. Some pain was soon experienced in the lower part of the abdomen, the labour pains became constant, and a child in an apparent state of asphyxia was born at three o'clock. The placenta was immediately expelled, and the several symptoms of cholera gradually disappeared. The new-born child began to scream almost immediately after its birth, was seized with vomiting, purging, and cramps, especially the peculiar contraction of the fingers, and died on the following day with unequivocal symptoms of Asiatic cholera morbus.

In order to furnish some ground of comparison with the progress of the disease in a part of the world subjected to completely opposite conditions of climate &c., we shall here select a few observations from a paper by a Spanish physician on the cholera in Havannah:—The disease commenced on the 26th of February 1833, and continued to the 20th of April. During this short period of time, no less than 8253 persons were destroyed in a population composed of 65,000 souls. The greatest mortality prevailed amongst the free negroes, the lowest amongst the female whites. The mortality of children up to ten years of age was compared with that observed in Europe, remarkably great. At Berlin it was one-sixth, at Dantzig one-eleventh, at Breslau one-thirteenth, at Christiana two-ninths, but at Havannah one-fourth, while the proportion of deaths above seventy years was at Havannah one-twenty-ninth, at Berlin one-twenty-sixth, Paris one-twenty-second, Posen one-eighteenth, Christiana one-twenty-fourth. The progress of the disease was as follows:—

Week.	Deaths.
1st. (Feb. 26)	176
2nd.	779
3rd.	1346
4th.	2146
5th.	2042
6th.	661
7th.	220
8th.	75

The daily mortality of Havannah is about ten; during the epidemic it amounted to 153.

In a private letter which accompanied the communication of Mr. EDMONDS, inserted at p. 310, Mr. EDMONDS observes, in recommending his paper to our notice, that the subject he has discussed is one of universal interest; that his remarks are founded on perfectly new matter; that the points have not as yet been touched by any qualified hand; and that the principal results which he has obtained have not even been hinted at in any quarter. These are just grounds not only for ensuring attention to his paper from ourselves, but from our readers generally, and we therefore with pleasure afford the author the opportunity of submitting his facts and views to the notice of the profession in THE LANCET.

The subject is not one on behalf of which it has been reasonable to expect extensive voluntary devotion. It has hitherto been treated with great abstruseness, but the paper of Mr. EDMONDS is so purged of technicalities and superfluous minutiæ, that we anticipate for it a general and careful perusal, at the same time believing that the opportunities of observation and the combined intelligence of the medical profession in these countries, can bring to bear on the laws of human mortality more information than is obtainable from any other class of the scientific members of the community.

In the course of the paper will be found a table containing the materials from which the mortality of the English people has been deduced. It presents excellent practical evidence of the simplicity of the process for obtaining facts on the subject of that mortality.

In concluding his private letter Mr. EDMONDS says,—"The only novel statement "in my paper which is calculated to excite "surprise, is the extremely low rate of "mortality in infancy. For your satisfac- "tion on this head I inclose a table which "proves most clearly that the Carlisle "table (which is a fair representative of "the generality of mortality tables) is at "variance with the English observations "in the highest degree during infancy, or "below the age of five years." This table we have also given, seizing this opportunity of appending Mr. EDMONDS's observations with regard to it.

THE scheme of Reform in the Dublin College which was alluded to in a recent article in THE LANCET, was brought forward on Thursday week, in that institution, by Mr. CUSACK, the secretary. In order to give a correct view of the nature and objects of this undertaking, the plan should be stated in the words of the secretary, as they appear in the printed summons issued on the occasion:

"Mr. CUSACK to move that a committee be appointed to consider the following matters, and to report to the College the result of their inquiries, and the course they would recommend the College to pursue respecting them, with power to consult counsel, and print papers for circulation among the members."

These "matters" are comprised in the following series of propositions, on each of which we shall offer a few observations.

1. "The expediency of assimilating the course of education and terms of admission of apprenticed and non-apprenticed pupils."

Up to the hour at which this proposition was printed the professors of the College school and their partizans would have persuaded the public that the system of apprenticeship was the best possible form of medical education; and that by the regulations which they instituted respecting it, they left pupils to choose, in the most unrestricted and liberal manner, whether they would be educated as apprentices or not. While the College made these professions, it was obvious to every human being that their ordinances belied their declarations; and that while the public was mocked with the semblance of libe-

rality, the by-laws of the institution were so constructed that an inducement amounting almost to necessity was held out for the perpetration of this pernicious system. A thousand times were they told, and as often were the admonishers denounced for telling them so, that their regulations were diametrically opposed to the objects which they professed to attain; and that while indifference was expressed to the continuance of the system, every possible measure was adopted to retain it in full operation.

What new light, then, has broken in on these men to alter their opinions as to the expediency of effecting an alteration in the existing regulations? Are they now more inclined to do justice to the medical students of Ireland, or to remove the trammels which they have cast on the progress of science in that country, than they were when the present regulations were instituted? Not in the slightest degree; they are still the determined opponents of improvement, the patrons of an unjust monopoly, that they ever were, or will be so long as they retain the power of being so. The injustice, nay the robbery of the apprenticeship system, was fully as manifest to them then as it is now; and they are at the present moment as resolved as ever on making the most they can out of it. Why, then, would they propose a change? Simply for these reasons, that they see that the existence of any difference between the education and admission into the College of apprenticed and non-apprenticed pupils, giving an undue preference to one over the other, has been detected and scouted both by the public and the press. Besides this they are maliciously stupid enough to imagine that by yielding a little, they may maintain the more in those changes which they perceive to be approaching with rapid and dreaded strides. In short, the proposed alteration is meant as a sop to lull Mr. WARBURTON into repose. But the lynx-eyed vigilance of that gentleman is not likely to be imposed on by so shallow an artifice. He will see, as every one conversant with the history and aware of the spirit which actuates the movers in the College must see, that were these men sincere in their professions, they would not waste the time of the College in considering the "assimilations" of one injustice to another; but pass a law at once to abolish the system of apprenticeship for ever from the statutes of the College. Were they really in earnest about reform, the proposition quoted would no longer stipulate for this system being made a standard of comparison with another form of medical education. If the system to which they still cling with paternal fondness mean anything more than a system of peculation, it must imply this, that the person who is bound an apprentice, and paying a large fee, purchases a right to be taught the various medical sciences without being under the necessity of paying other masters a second time for this purpose. Now Mr. CUSACK himself may be referred to and asked whether he has ever done this for any one out of the many apprentices by whom he has realized a large fortune; or whether he would be capable of giving the necessary instructions in these sciences, even if he were inclined, and were not otherwise employed. In putting this interrogation, it is not meant to censure him for not being competent to fulfil a task which no individual perhaps in the united professions of these countries would be able to accomplish in a proper manner. It is assumption, not the inability,—the deception, not the incompetency,—the receipt of money for the performance of duties which cannot be performed, and for which the receiver *knows* that the dupe of his pretensions must pay some other persons.

Mr. CUSACK's case is therefore the case of a "class," allowing for individual differences; and is advanced to illustrate the iniquity of a system, not the isolated criminality of an individual. To show still more clearly the intentions of the movers of the proposition, it is only necessary to remind them that if they considered the system of apprenticeship to be the best mode of promoting education, they ought to insist on its observance by all their pupils indiscriminately, not give to them the fatal liberty of a wrong option. As the constituted guardians of medical education, they should take a definite course in the fulfilment of their duties, and not endeavour, as they now obviously do, to

enrich themselves by the chance wrecks which the deceptive lights of a seeming neutrality and a false freedom allure to the rocks. Let us have some defined, some tangible course, marked out by the College. Let us have apprenticeship or no apprenticeship. Let us have perfect freedom of choice on this subject, and not a delusive system, by which the pupil is deprived of his property and masters who would be willing to, and are capable of, communicating much useful information, defrauded of apprentice fees. In short it is only by a total erasure of the word "apprentice" from the College statutes—by dissociating that term from all connexion with College and hospital monopoly,—that whatever advantages are to be derived from this system, can ever be secured. Under such management there can be no doubt that the fees paid by a parent or a guardian for the superintendence of a pupil's education would not be disbursed in vain, but as the system is worked at present, it is one of unmixed fraud, both on pupils and the surgical profession of Ireland.

Thus far the question has been considered as if the differences assumed in the document quoted—the differences between the education and the admission of apprenticed and non-apprenticed pupils in the Dublin College of Surgeons,—really existed. This form has been adopted merely to place on record in a final form, an opinion on a subject of which probably no other opportunity of speaking will occur until it has been disposed of by the Legislature; and to show that all that has ever been said in this journal against this system, is virtually acknowledged in this precious document, in the proposal of "assimilation." But what will the public think of the utter stupidity and ignorance of the party for which Mr. Secretary CUSACK has drawn up this notice of motion, without any such differences as those assumed having an existence, with the single exception of a discretionary power possessed by the Court of Censors to receive the certificates of a certain county infirmary, as qualifications for letters testimonial in the College! In fact, the fees paid to the College and the course of studies for apprenticed and non-apprenticed pupils, are now precisely the same, though they formerly differed, with the exception of the regulation alluded to,—a regulation which was made in favour of the brother of Prime Minister JACOB, of the Maryborough Infirmary, by Dr. JACOB, Mr. KIRBY, Mr. CUSACK, and the other honest and impartial legislators of the College school, who, it appears, are now so busily employed in the fabrication of plots and schemes of "pseudo-reform," that they are ignorant of the very laws which they propose to alter! The second proposition of the series is this.

2. "Whether the present manner of conducting the examinations for letters testimonial may not be improved, by a separation of the more fundamental or preliminary subjects from those which are final, and more immediately applicable to the practice of the profession."

Yes, unquestionably a very great improvement might be effected in the manner of conducting these examinations, but this improvement cannot be effected in precisely the way pointed out by the secretary of the College. One of the most simple and necessary reformations which could be accomplished, but the last probably to which Mr. CUSACK would consent, would be the exclusion of all professors, being teachers, whether attached to colleges or to private schools, from the offices of examiners in the College. This would perhaps be the most beneficial change that the laws relating to the subject could undergo. Yet strange enough it has escaped the microscopic observation of Mr. CUSACK, who could detect distinctions where there were no differences, and found "assimilations" in systems which were already alike! With respect to the amendment of the law which he does propose, the change would no doubt tend to lighten the examination for the student, by permitting a division of his toil. But this good would be little in comparison with the evil which such a regulation would produce. In fact it would present an irresistible temptation to the candidate to neglect the most useful and necessary part of his education, but which Mr. CUSACK, with the characteristic ignorance of the empirical sect to which he belongs, is disposed to treat as of secondary importance. If the examination be properly

conducted it is not difficult for the pupil to show, even at the first trial, that he is well informed on the principles and duties of the profession which he seeks to enter. No compensating advantage therefore can be derived from the lapse of six or twelve months between an elementary and a practical examination. Suppose the candidate immediately needs the license to practise,—has, for instance, a medical appointment waiting his acceptance out of the country, was he to wait all this time in order to obtain the benefit of a most absurd regulation? Besides, it should be recollected that by the enactment of such a law there would be no less than three different species of examinations, progressing at the College, all of the same persons, at the same time! First the "half-yearly" examinations; next the "preliminary" examinations as they may be called; and, lastly, the "practical," or more correctly speaking the "empirical" examinations! Now these examinations are really subversive of, and totally inconsistent with, each other. If the "half yearly" catechising of the pupils be not merely a farce, why is a second order or course of "preliminary" examinations instituted? Or supposing each of these to be rigidly acted on, what is the use of the third, or "final," or "practical," or more plainly speaking the "kill-or-cure" examination? The truth is that Mr. CUSACK and his party have no such objects in view in altering the present system of examination as those which we have assumed in the argument. By this divisional scheme of examination they merely want to create a belief that they are really solicitous about the interests of the pupils of the College; while they at the same time attach pupils to the College school during the whole period of their studies, to the injury and exclusion of every other member of the profession who is engaged in the duties of instruction.

3rd. "The most effectual means of enabling such members or licentiates of the College as may desire it, to practise as general practitioners, in the same manner as surgeons are authorized to practise in England."

At length, then, official notification is given of civil war between the "Patricians" of surgery and the "Plebeians" of the pestle and mortar; and the resolution is drawn up and moved by the old supporter of the league between these parties, Mr. CUSACK! It is certainly pleasant thus to see "friend" CUSACK, secretary of the College of Surgeons, and "friend" MADDEN, secretary of the Apothecaries' Hall, come into collision. In this matter, however, Mr. CUSACK is as little serious as he is about the other propositions which we have discussed; and in proof of the averment the following anecdote may be related. Some time before the College had deputed him to act the part of advocate before the Medical Committee of the House of Commons, this subject was under discussion in Stephen's-green. The question was very warmly taken up by the junior men of the College, who felt themselves aggrieved by the encroachments of the "poison grinders" on their practice; when, in order to secure as "friends" all parties at the same time, no one could be more indignantly enthusiastic in his denunciation of the apothecaries than the ambidextrous secretary. Mr. CUSACK was shortly after brought before Mr. WARBURTON, when, among other questions, he was asked whether he did not think it would be advantageous to the members and licentiates of the College to dispense their own medicines. The wily secretary paused, and looked around, and then observing his brother secretary of the Hall, and old friend, Mr. MADDEN, near him, he replied that he did not think it would be expedient to make any alteration in the laws on this subject! He is now back again among the young members of the College whom he has so long cajoled, and once more hoists the black flag of extermination against the poor apothecaries! Had Mr. CUSACK's zeal, however, been more sincere than it is, he has probably deferred the attack too long; and he will most likely find it impossible to drive the enemy from the firm position which he holds. At all events it is certainly not to the generalship of a leader whose notorious tergiversation with the "apothecaries" has materially impeded the progress of this important question towards an "equitable adjustment," that the licentiates and members of the College

should entrust their cause or their interests. If they mean to right themselves with the public,—to raise themselves above the character of "walking gentlemen," they will take the management of the affair into their own hands. They ought to see by this time that whatever Mr. Cusack might lose, he would certainly gain nothing by the change, and that he is one of those practical philanthropists who will not sacrifice his own interests to ensure those of others. The present system is quite good enough for Mr. Cusack, and whatever he may profess to his young friends in the College, he would not wish to see it disturbed.

The "fourth proposition" contains a most curious suggestion, but want of space compels us to postpone any remarks on the subject until next week.

Journal of Practical Medicine for January and February, 1835. Edited by MM. Hufeland and Ossan.

The two first numbers of this journal for the present year contain original articles on the following subjects:—

1. On the varieties and pathological differences of the races of man. By C. W. Hufeland.
2. On the fatal consequences which may arise when an inflammatory abdominal typhus fever is treated as a common nervous fever. By Dr. Frenzel.
3. Directions for the confection of an artificial magnet. By Dr. Becker.
4. On necrosis of the cranium and degeneration of the cerebral substance.
5. On ileus and its treatment. By Dr. Hauf.
6. On the pathological appearances of the disease called nervous fever. By Dr. Stannius.
7. New proof that the trachea will sometimes retain a foreign body for a considerable length of time without affecting life.

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6. Pathology of nervous fever.

The following is a summary of the appearances found by Dr. Stannius at one of the hospitals of Berlin in the bodies of twenty-three patients who died at different stages of the above disease, during the year 1834, as recorded in article No. 6 on the above subject.

Cavity of the Cranium.

1st. In eight cases there was scarcely any alteration in the consistency &c. of the brain, or in the quantity of serum or blood.

2nd. In one case the brain was very pale, with a quantity of pale serum in the ventricles.

3rd. In one case the brain was very soft and white, with a little clear serum.

4th. In one case the brain was pale and completely softened.

5th. In two cases the brain contained a normal quantity of blood, and a good deal of serum in the ventricles.

6th. In six cases the brain and its membranes were considerably injected.

7th, and finally, in three cases the arachnoid was opaque; there was injection of the tissue between the dura mater and the arachnoid, and the brain and its membranes were highly injected.

On a comparison of the symptoms during life with the pathological appearances, it would seem,—

That the delirium was most violent, and the intractability most marked in those patients where the cerebral substance was in great part softened. However, considerable delirium existed, with little alteration in the cavity of the cranium, and, finally, very long and violent delirium was observed in individuals who presented no change whatever of the brain or its membranes. The spinal marrow was not examined in any case, but the semilunar and other ganglia of the sympathetic nerve were carefully examined with the microscope, and did not appear in any way altered.

Circulating System.

In most of the cases examined, the blood was evidently altered; it was generally fluid, and without cruor; the fibrine commonly existed in very small quantity, or as a pale gelatinous mass, and the colour of the blood was mostly excessively dark; petechiæ were observed in three cases only, but in four others the subserous tissue of the arachnoid, peritoneum, and pleura, and the submucous layer of the intestines, contained numerous ecchymoses.

Respiratory Organs.

The mucous membrane of the trachea at the upper part, especially about the epiglottis, was in most cases of a blue-red colour; the capillaries were injected, and the

membrane itself was covered with mucus; the mucous glands of this region were very much developed and visible: this alteration at the upper part of the trachea is the most constant appearance which we find in cases of nervous fever. The rest of the membrane lining the air tubes was generally of a normal colour and injection. The appearances found in the cavity of the chest were very various: in many cases the lungs presented a perfectly healthy aspect: very often the two superior lobes were filled with dark fluid blood; the other morbid conditions evidently belonged to complications of the primary disease. Of the twenty-three cases, five presented the lungs perfectly healthy; in ten cases both inferior lobes were inflamed, and in several of these the pleura pulmonalis was covered with an exudation; in four cases the inferior lobe of one or both the lungs was œdematous, and in one case the whole lung was affected with general œdema.

Cavity of the Abdomen.

The appearances of the stomach were very various, but in general nothing more than partial injection was observed; the lining membrane was softened in one or two cases, and the submucous tissue spotted with extravasations. One of the most remarkable appearances of the intestinal canal, was a thinning of its parietes, particularly at the two lower thirds. The intestine was evidently thinned to the eye and the touch. The author was at first inclined to attribute this curious phenomenon to a thinning of the villous coat, but on examining it under water he found that the whole intestine was lined by a very thin membrane immediately below the villous coat, which the author regards as an integral part of its structure and analogous to the epithelium. In the parts where this membrane was absent or atrophied, the intestine presented its peculiar thin appearance.

The injection of the capillaries was very various, according to the stage of the disease in which the individual died. In many cases where the patient died during the *acmé* of the disease, the submucous tissue was injected in several points, and in the cases where the contents of the stomach and bowels were tinged with blood, several large portions of the mucous membrane were highly injected, but no breach of surface or rupture of any vessel could be observed.

As to the mucous glands of the great and small intestines on which so much has been written, the author remarks, that the Brunnerian glands of the duodenum were very visible in all the individuals he examined. Sometimes they appeared a little enlarged, and were occasionally surrounded with patches of injection: the glands did not present the least alteration in the jejunum; in the ilium various small eminences, like the glandulæ solitariæ, in a developed state, were remarked, and at the lower part were found ulcerations of from three to four inches in circumference.

It may be laid down as a general rule that in cases of gastro-nervous fever the glands nearest the great intestine are the first and the most severely attacked, a rule which does not apply to cases of phthisis, where the upper glands are often attacked, although commonly the lowest are most subject to the disease. In a great number of cases the affection of the glands was limited to engorgement, erosion, or ulceration of the glands of the small intestine alone. In other cases the glandulæ solitariæ of the large intestine were also diseased, and the glands of BRUNNER were frequently the seat of pustule and engorgement.

The appearances observed in the great intestine were also very various. Sometimes the sub-mucous tissue presented a ramiform injection extending through the whole surface of the bowel; on other occasions it was capilliform; in one case the great intestine was full of ecchymoses, and in two others the lining membrane appeared much thinned.

In a great number of cases the alteration of the glands of the great intestine was confined to an elevation of their edges, an enlargement of their outlets, and an increased secretion of mucus: their edges were frequently surrounded by a thick red circle of vessels. In a more advanced stage the tumefied glands lost their originally round form, and became irregular.

ST. GEORGE'S HOSPITAL.

THE following is a brief report of the proceedings at a meeting of the Governors of *St. George's Hospital* held on Friday week, the 29th ult. We give it just as it was received from a gentleman who was present. A notice of the intention to hold the meeting appeared in THE LANCET of the 23rd ult, when we warned the governors against the adoption of a law, quite unequalled for the hardihood and impudence of its proposers and the mischief of its design, by which governors of the hospital were to be expelled from office for alleged "misconduct," by the medical officers and their friends.

ST. GEORGE'S HOSPITAL.—*Special Court to receive the Report of the Committee (self) appointed to revise the Laws.*

The Earl of ROSEBERRY took the chair. The Chaplain commenced the proceedings with a "Prayer for Charity." Mr. FULLER, the Chairman of the Committee, then laid the new laws on the table, and a motion having been made that they be taken into consideration,

Mr. MORLEY rose and objected that the Committee was an illegal convention, which possessed no right to frame laws, its members being also a party assembly who were unfitted, by their notorious partialities, for framing laws or legislating for the hospital. Six of the ten were medical officers of the Institution.

Mr. ELKINS then moved an amendment to the following effect:—"That the appointment of a committee by a Weekly Board was illegal, and highly inexpedient; that a committee for so important a subject ought only to be chosen by a Special Court convened for that purpose; that the labours of such a committee could not carry with it public confidence, and that the interests of the hospital would suffer from the imputation that the medical officers were more solicitous of their own interests than the welfare of the charity." This having been seconded,

Captain BIGNOLD * rose and placed on the table a number of THE LANCET for May 23, stating, that it contained a charge that the governors were ruled, and likely yet further to be coerced, by a clique of medical officers. He had come up a hundred miles from the country to town, to combat this subjugation of the government of the hospital, and he hoped that the charge would be disproved, or the object of the medical faction overcome by the result of the proceedings of that day.

Drs. SEYMOUR and CHAMBERS severally rose, defended the appointment of the Committee, and attempted to disprove the charge contained in THE LANCET. The extent of their ability to do so successfully may be proved, in the absence of notes of their speeches, by a perusal of the proposed law on which the charge was grounded. The following is a copy thereof:

"LAW 13. Upon complaint being made to any *Weekly Board* of *misconduct on the part of any governor*, such Weekly Board shall have power to direct that the same shall be taken into consideration at the next Weekly Board, and shall cause notice thereof to be given to such governor, and such next Weekly Board shall inquire into such alleged misconduct; and if such Weekly Board shall decide that such misconduct on the part of such governor shall have been proved, *as shall render it expedient that he should cease to be a governor*, such governor shall, at the end of four weeks from the date of such decision, *ipso facto, cease to be a governor*, unless such governor shall, within such four weeks, require in writing, to be delivered to the Chairman of any Weekly Board, to have such alleged misconduct submitted to a Quarterly Board, &c.; and if such Quarterly Board shall so direct, such governor shall *cease to be a governor* from and after the holding of such Quarterly Board; but, nevertheless, without prejudice to any right he shall have of recommending patients."

Sir BENJAMIN BRODIE next rose, and in reply to the gallant Captain said, that whoever furnished so disreputable a journal as THE LANCET with the information contained in the Number of May 23rd, ought to be ashamed of himself. The gallant Captain ought to disregard the charge, and for his (Sir B. Brodie's) part, he paid but little attention to anything that such a disgraceful publication stated.

Dr. WILSON wholly differed from his colleagues, the law-framers, in their proceedings, and stated his opinion that the Committee were all of them personally interested in the manufacture of the new code of laws, and in directing them to certain ends. He felt sure, therefore, that they ought not to obtain the assent and support of the governors at large.

Mr. BAGSHAW, the solicitor, appeared for the Committee, and pleaded in behalf of the rectitude of their motives and the soundness of their principles in framing the new regulations.

Sir CULLING SMITH, Bart., then moved an amendment to the effect,—That the present Court do adjourn, and that the Weekly Board do summon a special general meeting, to appoint a new Committee to consider the laws under discussion. This amendment was seconded and strongly supported by the CHAPLAIN of the hospital.

The noble CHAIRMAN considered that nothing could be more proper than the adoption of this amendment, and expressed his conviction that from its propriety it would not be opposed or divided on by the medical officers or any one else.

Sir B. BRODIE and Dr. CHAMBERS vehemently opposed this suggestion, and being loudly cheered by the medical officers, law-framers, and their friends, insisted on pressing the amendment of Sir C. Smith to a division, when there appeared,—

* We are not certain that the name of this gentleman is correctly spelled.

For the amendment, 31; against it, 38. Of this majority 28 were what are called "medical governors," dependants of Sir B. Brodie, whose subscriptions he is said, with what truth we know not, to pay out of his own pocket. The following explanation, with regard to the laws, appears in the *Observer* newspaper of Sunday last:—

"The revision of the laws became necessary in consequence of an act passed during the late session, which constitutes the Governors of the Hospital a corporate body, and therefore empowering them to hold lands, tenements, hereditaments, &c., which, by the operation of the statute of mortmain, they were prevented from availing themselves of, in the shape of bequests of certain kinds of property. The consideration of the laws for the government in perpetuity of this institution excited intense interest, especially as the laws presented by the Weekly Board contained clauses inimical to the independence of the governors. It was the opinion that the medical officers ought not to have voted, as they were personally interested."

"It was afterwards moved 'that the Court do adjourn to Tuesday, June 2, to resume the consideration of the laws,' which was agreed to. Thanks were voted to the noble Chairman, for his able and impartial conduct in the chair."

Since the above was written we have received the following notice of the proceedings of June 2:—

Lord Willoughby D'Eresby took the chair, and the proposed laws were taken severally into consideration. Several were passed, after the erasure of some objectionable provisions, and emendations of the composition. On reaching the 11th, which ordained that no governor who might be a medical practitioner or other person should enter the wards of the hospital to obtain medical information or instruction from the cases, unless he had first paid the medical officers their private fees for liberty to do so.

Dr. Wilson rose, and in a long and most able speech opposed the monstrous provision in indignant terms. Such legislation he considered as most mean and paltry, and very improper towards the members of the medical profession. For his own part, he was, as an officer of the hospital, always gratified to afford his medical brethren the opportunity of gaining any information which the wards of such a public institution could afford.

Mr. Howship (the surgeon) stood up to reply to Dr. Wilson, but the confusion with which the terms of his advocacy covered even his own greedy and avaricious party, soon induced them to return him to his seat and call for a division, when there appeared,—For the Law, 36; Against it, 29.

Several medical students who were governors, and had hitherto voted with Sir Benjamin Brodie, left the room before the division was taken, being unwilling to vote for so scandalous a clause, and fearful to incur the vengeance of the medical junto by voting against it. On reading the 13th Law, that for the expulsion of governors by the medical party,

Dr. Roderick Macleod rose, and having fully ascertained from what had appeared in The Lancet on the subject, and the strong feeling of disgust felt at its proposition amongst the governors, that it would not do to persevere in its favour as it originally stood, moved the following amendment:—

"Upon complaint being made in writing to the Weekly Board of such conduct on the part of any governor in his connexion with the Hospital, as is calculated to bring scandal on the Institution, or prove detrimental to its interests, the Weekly Board shall cause notice to be given to such Governor, and if within four weeks such governor shall withdraw his name from being a governor, such governor shall *de facto* cease to be a governor, and if such governor shall not cease to be a governor, the Weekly Board shall (if it shall see fit) summon a special court for the purpose of considering the same, and such special court shall have the power, if it see fit, to order that such governor shall cease to be a governor from and after the holding of such court, but without prejudice, nevertheless, to any right he shall have of recommending patients." The words in parentheses were afterwards erased, but that was the only alteration made in the composition or grammar of the document. The mover (Dr. Macleod) previously laboured to defend the original law; its object was he said very different from what it had been designated. It was intended only to provide against any governor going into the apothecary's shop and filling his pockets with drugs, or against any governor committing any immorality (such as one governor's picking another governor's pocket), or seducing any of the female patients. It was, in fact, a law of pure mercy to the Governors, cautioning them (from fear of punishment, and to avoid their being rendered liable to the exposure of a special court) against misconduct in the hospital.

Dr. Seymour then declaimed against what he deemed the unworthy imputations which had been thrown on the medical officers, and insisted that they were only actuated by the most delicate considera-

tion for the Governors; but if they, the Governors, did not appreciate such kindness, why then let them be dragged before the world by a special court, and have that done in public against them which it was delicately intended to do in private.

Sir CULLING SMITH endeavoured by some additions and alterations to render Dr. MACLEOD'S proposition intelligible, and after a great deal of time had been consumed, and it had been read two or three times from the chair, it was decided that it embodied already what Dr. MACLEOD intended it should contain.

A GOVERNOR then rose to oppose the amendment, but Dr. MACLEOD peremptorily declared that it had, by being read by the Chairman, been put from the chair. It was in vain that the governor endeavoured to argue against so absurd a position. A clamour of "Question" and "Chair" was raised and continued, and Dr. Macleod persisting in a call of "Divide," "Divide," the amendment was put and pronounced to be carried, 25 of the governors refusing to vote on it in consequence of the denial to hear their observations. The meeting was soon after adjourned to the 12th inst. The utmost indignation prevails amongst the respectable members of the profession at the west end of the town, at the conduct of the medical junto at the hospital. In order to remove from the latter the odium into which they had fallen by the proposition of Law XI, Mr. PALMER has been induced to take upon himself the discredit of having proposed and framed that Law in the Committee. A person of the name of GOOD acts the part of whipper-in of voters for the Brodie-party.

MR. CURTIS IN REPLY TO MR. HOARE'S CHARGE OF UNPROFESSIONAL CONDUCT AGAINST MR. VICARY.

To the Editor of THE LANCET.

SIR,—It was with the deepest pain and regret that I saw Mr. Hoare's letter in THE LANCET of the 23rd of last month, respecting the death of my child. The statement which Mr. Hoare has made is altogether so erroneous, and his assertions respecting Mr. Vicary are so incorrect and unjust, that I am induced to send you the particulars of the case, well knowing that you will allow them a place in your impartial journal. My child, a fine healthy boy (and not a female child as stated by Mr. Hoare), aged fifteen months, was attacked with measles in February last; it was a very mild case, but on the decline of the eruption, thinking some medicine necessary, I requested Mr. Hoare to administer it. There was no inflammation about the child; no difficulty of breathing. He had a slight cough, which I have always observed to attend measles. Mr. Hoare accordingly sent four powders and a bottle of medicine. One of the powders was directed to be taken every four hours, with a tablespoonful of the mixture. About the third day after taking the medicine (and not on the same evening as stated by Mr. Hoare) the child's mouth became tender and inflamed, and the breath very offensive; he could scarcely be induced to take the breast, although he appeared to be exceedingly eager to do so. On Mr. Hoare's calling, I inquired the cause of the soreness of the mouth; he replied, "Make yourselves perfectly easy, *if proceeds entirely from the powders*, there are *two* grains of calomel, and some of James's powder in each, and it will all be well again." He likewise added, "I gave my servant some of the same medicine the other day, and it had the same effect." Contrary to Mr. Hoare's prediction the child rapidly got worse; the tongue became enlarged, and the whole of the interior part of the mouth was in a state of ulceration, and the discharge of saliva was so great that we were constantly obliged to remove it from the mouth with cloths, otherwise I believe the poor child would have been suffocated; the face also became much swollen, and the child perfectly blind, exhibiting altogether the most distressing appearance I ever saw. Mr. Hoare likewise said on leaving my house, "You know, Mr. Curtis, that Sir Astley Cooper might have had an accident."

The child continuing to get worse, Mr. Vicary was sent for. On his arrival I informed him that Mr. Hoare had been previously in attendance, and the circumstances under which I had discontinued him. Mr. Vicary immediately said, "*I do not like to interfere with the patients of other medical men, and I cannot prescribe for your child except Mr. Hoare is present. If you will see Mr. Hoare and appoint a time I will meet him here*," or words to that effect. Mr. Vicary then left my house. I sent to Mr. Hoare, apprised him of what had taken place, and as I had lost all confidence in him, in the evening I sent for Mr. Vicary again; he then saw my child, and pronounced him to be in great danger, and notwithstanding every effort was made, both by Mr. Vicary and his assistant, to save my poor child, he sank.

This, Mr. Editor, is a brief statement of facts, which I am ready to verify upon oath if required, and can be supported by five respectable persons who were in the habit of seeing my child. With respect

to Mr. Vicary and Mr. Hoare, the question between them appears to be simply this:—Did the report of which Mr. Hoare complains originate with him or Mr. Vicary? I unhesitatingly say with himself,—for he informed Mrs. Curtis and myself *before Mr. Vicary was called in*, that the soreness of my child's mouth was occasioned by the powders he had administered. This statement *alone* of his induced me to call in further advice, and if Mr. Hoare had kept his own counsel, I should not have known to this hour the nature of my child's complaint. I am, Sir, your obedient servant,

WILLIAM CURTIS.

Warminster, June 2, 1835.

MEDICAL STATISTICS

OF THE POPULATION OF PRUSSIA, ACCORDING TO EACH PROVINCE, FOR 1833.

Provinces.	No. of Inhabitants.	Physicians and Surgeons graduated.	Surgeons who have not graduated.	Sum Total.	Of these are Accoucheurs	1 to No of Inhabitants.	Apothecary.	Nurses.
East-Prussia	1.253.068.	88.	120.	208.	66.	6.025.	81.	950.
West-Prussia	781.009.	69.	72.	141.	68.	5.539.	77.	506.
Pomerania	919.574.	129.	129.	258.	119.	3.564.	87.	752.
Brandenburg (not including Berlin)	1.338.025.	188.	271.	459.	161.	2.915.	152.	1.498.
Berlin	249.086.	235.	86.	321.	95.	776.	31.	53.
Posen	1.050.005.	90.	127.	217.	71.	4.838.	88.	536.
Schlesien	2.476.829.	333.	514.	847.	320.	2.924.	161.	2.282.
Sachsen	1.456.449.	319.	440.	760.	268.	1.916.	170.	1.469.
Westphalia	1.269.039.	249.	226.	474.	231.	2.677.	143.	1.297.
Kleve-Berg.	1.114.773.	286.	186.	472.	239.	2.361.	158.	581.
Niederrhein	1.191.948.	174.	140.	314.	146.	3.796.	94.	842.
	13.099.805.	2.160.	2.311.	4.471.	1.781.	37.231.	1.242.	10.766.

Berlin. Medicin. Zeitung. No. 6.

INDIGO EMPLOYED AS A REMEDY AGAINST EPILEPSY.—The utility of indigo as a medical agent was first pointed out by Dr. Grossheim, a Prussian physician. The results which he obtained were favourable, and Dr. Ideler was accordingly appointed to make a set of experiments on patients affected with epilepsy. Twenty-six patients were treated, and of these six recovered perfectly; three were apparently cured, but from eight to twelve months afterwards suffered a relapse under the influence of causes which of themselves alone were sufficient to generate epilepsy. Eleven patients were essentially improved, and of the whole number treated, only six experienced no change. The effects of indigo on the animal economy are in no ways disagreeable or dangerous; at first the patients vomited frequently, without any straining or derangement of the digestive organs; after a few days this ceased, and the patient had six or eight stools a day, sometimes accompanied with slight colicky pains; after a short time the purging diminished, the matter passed assumed a fluid character, and this state continued as long as the indigo was administered, without the appetite or digestive organs being injured. The useful reaction of the remedy on the nervous system was proved by the fact, that the epileptic attacks were more severe at the commencement, and seemed to assume a higher degree of intensity, but they soon became less frequent and violent, and at length disappeared. The remedy was commonly given in the form of confection with some aromatic powder, or on other occasions simply by itself. The dose to begin with is one scruple, which may be increased to a drachm after a short time, and gradually carried to half an ounce or an ounce.—*Idem.*

NEW METHOD OF PRESERVING THE FLUIDITY OF BLOOD DURING TRANSFUSION.—A method founded on an observation of Hewson (who remarked that the blood confined by ligatures in the blood-vessels of a living animal, so that all connexion with the air is avoided, did not coagulate before five or six hours) has been invented by Dr. Schultz, who has found that it is not necessary, as Hewson thought, that the portions of vessels containing the blood thus confined should remain in connexion with the animal, or be covered with oil in order to preserve its fluidity, but that we may remove the portion of vessel containing the fluid, and preserve it in the air, without its coagulating on that account sooner than under the former method. The experiments of Hewson were confined to the veins. Dr. Schultz observed that the arteries of horses and dogs are better fitted than the veins for experiment, and moreover furnish the same results; and that it is possible to keep the blood as long fluid in a portion of clean-washed intestine as in the bloodvessels themselves. For this purpose he divides the intestine into portions of eight or ten inches, or longer if necessary, ties up one end, and receives the blood from the opened artery into the other by means of a glass tube. As soon as the intestine is full, it must be carefully closed, so as to permit no air to enter at the other end. These bags of intestine may be carried about, and exposed to the air, the blood contained in them does not coagulate for two or three hours. The best intestine is that whose parietes are very thick, viz., of a dog, ox, or calf; the intestine of the sheep is not sufficiently thick to guarantee protection from the air, unless it be doubled. A result similar to that just described may be obtained by receiving the blood into a carefully-stopped bottle, but when the latter is full of air, and the blood in descending makes a foam, it is more difficult to protect it from the action of the air, and the experiment usually fails. The same takes place when the blood is drawn immediately into the syringe; it usually coagulates.—*Idem, No.* 10.

SPECIFIC REMEDY FOR PROLAPSUS ANI.—Dr. Schwartz has published in Hufeland's Journal, No. 2, a "specific" remedy for this accident. It consists of nux vomica employed in small doses. The author assures us that he has made use of it during ten years in several cases of prolapsus ani, and never been disappointed. This complaint is frequently observed in very young children; here the author commonly employs a solution of one or two grains of the extract in two drachms of distilled water, and gives six or ten drops every four hours. The disease of the bowel is generally cured in the following day. When the child is older he gives fifteen drops, and continues the medicine eight days after the cure, to prevent any relapse. Children at the breast require very small doses, two or three drops of the solution: when the prolapsus has continued for some time, he adds a few grains of extract of ratanhia as an astringent.

THE first part of a "CYCLOPÆDIA OF ANATOMY AND PHYSIOLOGY" has just been issued by Messrs. Sherwood, the publishers,—the counterpart, in external appearance, of the "Cyclopædia of Practical Medicine," in all respects but one, viz., the names of the authors in the table of contents. The want of the empty title of "doctor" was a sufficient reason with the Editors of the Cyclopædia of Medicine, for excluding from the list of contributors every man of talent in the profession, whereas in the "Cyclopædia of Anatomy and Physiology" the Editors have permitted themselves the utmost freedom of choice among authors of knowledge and ability. Such at least the fact seems to be, and the circumstance that a few contributors of meagre literary powers may chance to obtain employment on the work, does not affect the principle on which the selections are made. As yet we have not had time to examine the Part with care, to ascertain the extent of its merits. In fact a general recommendation of an uncompleted work in parts cannot be given with justice or honesty by any journalist. A five-shilling specimen of an unpublished six-guinea work, may furnish materials for a puff, but not for a a review of the work. Each Part must, in truth, be regarded as containing a series of distinct essays, which purchasers may be willing to purchase for their distinct and respective excellences. The Part is illustrated by many engravings.

CORRESPONDENTS

A continuation of the services of the correspondent who begins his letter of the 4th with, "As you were pleased to notice my last communication," &c., is requested.

The letter of *Mr. Gray* and several other correspondents next week,